

*Merritt
Ruhlen*

On
the
Origin
of
Languages

*Studies in
Linguistic Taxonomy*

On the Origin of Languages

To Allan,

With warm regards,

Menü

4 May 1994

On the Origin of Languages

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Studies in Linguistic Taxonomy

Merritt Ruhlen

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For my parents,

Florence Ennis Ruhlen

Frank Merritt Ruhlen

Preface

For most of the twentieth century, and for a variety of reasons, some of which are discussed in this book, the field of taxonomy, or classification, has provoked little interest in the linguistic community. Yet the past decade has witnessed a renaissance in linguistic taxonomy that has brought this once moribund field from obscurity to center stage—not only in scientific circles, but in the mass media as well. In just the past three years the field has seen lengthy articles in *U.S. News and World Report* (November 5, 1990), *The Atlantic* (April 1991), and *Scientific American* (April 1991), as well as television shows in England (April 1992) and Germany (June 1992). Within the academic community few topics are today more controversial—or more heatedly argued—than the current debates over Joseph Greenberg's Amerind proposal, the Nostratic hypothesis recently reinvigorated by Russian scholars, or, indeed, virtually *any* proposal of genetic affinity that goes beyond the obvious.

The sources of this renaissance are multiple. In the broader context it represents simply the latest episode in a century-long debate over the limits of the comparative method in linguistics. Certainly the publication of Greenberg's *Language in the Americas* in 1987 was a major factor in this revival of interest in taxonomy, as was to a lesser extent the publication of my book on classification that same year. But even before these two books appeared, other events had signaled a reawakening of interest in classification. In March 1986, at Rice University, Sydney Lamb and Douglas Mitchell had organized a Symposium on the Genetic Classification of Languages to celebrate the two-hundredth anniversary of Sir William Jones's famous pronouncement on

Indo-European—the crux of which, “sprung from some common source,” became the title of the published proceedings. The conference brought together for the first time Greenberg, his associates, and the Russian Nostraticists, and this single event led to continued cooperation between the two groups, both informally and at several subsequent conferences. In the years since this conference—and perhaps largely as a consequence of it—the work of the Russian Nostraticists has come to be much better known in this country.

Later that same year—and independently of the Rice conference—Harold Fleming began distributing a newsletter, *Mother Tongue*, devoted to the study of language in prehistory, that has served ever since as a forum for debate on topics considered too controversial for establishment journals like *Language*. Fleming too had been stimulated by his discovery of the Russian Nostratic work, during a conference in Moscow, a discovery that had rekindled his long-held interest in classification. The impetus given to linguistic taxonomy by the Rice conference, the founding of *Mother Tongue*, and Greenberg's classification of the American Indian languages soon attracted several other scholars interested in developing more comprehensive classifications of the world's languages. These linguists, who had been working essentially in isolation, were quickly integrated into the emerging network of scholars; among them, John Bengtson, Václav Blažek, and Allan Bomhard have been the most prolific contributors.

In 1988 this renewed interest in linguistic taxonomy gained an added boost from an unexpected quarter, when biologists—especially L. L. Cavalli-Sforza and his colleagues—found that a classification of the human population based on genetics bore a striking resemblance to the linguistic classification advocated by Greenberg and the Nostraticists. At a time when Greenberg's adversaries were unremittingly assailing his tripartite classification of New World languages, Cavalli-Sforza discovered exactly the same classification, on the basis of human genetics. This independent confirmation of Greenberg's findings—drawing upon wholly different data and a wholly different methodology—posed a problem for his critics that they have yet to address. In reality, the revolution in taxonomy had begun some four decades earlier with Greenberg's classification of African languages, but in retrospect it is now clear that the revolutionary aspect of that classification was not fully appreciated at the time.

The high degree of correlation between the linguistic and genetic evidence for the spread of humans in prehistory led archaeologists, in particular Colin Renfrew, to propose that perhaps the time had come for a concerted interdisciplinary approach to the problems of human prehistory, in which the findings of comparative linguistics, human genetics, and archaeology would be inte-

grated into a single overall hypothesis concerning the origin and spread of modern humans from Africa to the rest of the world, over the last 100,000 years. Renfrew called this endeavor the “Emerging Synthesis,” and this book is intended as a linguistic contribution to this collective enterprise. Over the past five years scholars from these three disciplines have participated in joint conferences in Turin, Italy (1988), Ann Arbor, Michigan (1988), Orono, Maine (1989), Santa Fe, New Mexico (1989), Sapporo, Japan (1989), Boulder, Colorado (1990), Cold Spring Harbor, New York (1990), Florence, Italy (1991), and Tokyo, Japan (1992). For those interested in the Emerging Synthesis, these conferences provided a forum for the exchange of ideas and a running debate over differences of opinion, and some of the papers in the present volume represent my participation in the conferences.

I cannot in fact sufficiently emphasize the importance of these conferences for my own work. They have afforded me opportunities to discuss questions of mutual interest with some of the world’s most distinguished linguists, biologists, and archaeologists. In particular, I would like to acknowledge the friendly counsel of the following linguists, none of whom necessarily agrees with any of the views expressed in this book: Lionel Bender, John Bengtson, Václav Blažek, Claude Boisson, Allan Bomhard, Bernard Comrie, Aron Dolgopolsky, Sheila Embleton, Harold Fleming, Joseph Greenberg, John Hawkins, Mary Ritchie Key, Sydney Lamb, Vitaly Shevoroshkin, Sergei Starostin, and William S.-Y. Wang. I have also profited from discussions with many biologists, among whom Kenichi Aoki, L. L. Cavalli-Sforza, Jared Diamond, André Langaney, Alberto Piazza, Vincent Sarich, Robert Sokal, Christy Turner, and Steven Zegura deserve special thanks. And I must thank, as well, the archaeologists Takeru Akazawa and Colin Renfrew, and the physicist Murray Gell-Mann, for their support and advice. As in the past, Stanford University Press has been supportive in a difficult and controversial volume, and I would particularly like to thank my editors Muriel Bell and William Carver. Finally, I would like to express my appreciation to Donald Knuth for creating the \TeX typesetting language, which made the difficult material in this book typographically possible.

M. R.
Palo Alto, California
10 May 1993

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On the Origin of Languages

If we possessed a perfect pedigree of mankind, a genealogical arrangement of the races of man would afford the best classification of the various languages now spoken throughout the world; and if all extinct languages, and all intermediate and slowly changing dialects, were to be included, such an arrangement would be the only possible one.

—Charles Darwin, *On the Origin of Species*, 1859

Introduction

Linguists are justifiably proud that the evolutionary explanation for similarities among languages was clearly enunciated in the late eighteenth century, by Sir William Jones, more than 70 years before Darwin offered such an explanation for biological similarities. Furthermore, the nineteenth century saw major advances in linguistic taxonomy, including a meticulous in-depth investigation of the Indo-European family that remains to this day the standard by which historical studies are measured. But this auspicious beginning notwithstanding, the twentieth century has witnessed a decline in interest in such matters, which most linguists consider to have been essentially resolved—to the extent that any resolution is possible—in the last century. Indeed, linguistic taxonomy in the twentieth century has actually regressed in many respects, and an elaborate mythology about how classification is carried out—and what is actually known—has been allowed to capture the field. What is being done to move beyond that mythology is the unifying theme of the present collection of essays.

Until recently most linguists viewed the tenets of linguistic taxonomy roughly as follows. Though the Indo-European family had been established beyond doubt, it had never been shown to be related to any other family—and cannot be, because the rate of linguistic change is so rapid that all trace of genetic affinity is eroded after around 6,000 years. Many other families have also been identified (e.g. Uralic, Dravidian, Australian, Algonquian, Siouan, Arawakan), but none of them can be convincingly connected either with each other or with other families. Linguistic taxonomy, according to this view, has simply gone as far as it can, and this temporal limit, 6,000 years, just happens to coin-

cide with the presumed time depth of the Indo-European family discovered by Jones over two centuries ago. Not only did Jones discover the method of comparative linguistics, we are told, he discovered the limits of that method as well. It is as if Galileo's telescope was not only the *first* telescope, but also the most powerful telescope that could ever be built. Incredible as it may seem, this is the commonly accepted view of linguistic taxonomy today.

The reality, however, is quite different, and were a taxonomist from Mars to visit the Earth and consult our literature she would be at a loss to explain why the Australian family is universally accepted as valid, while the Amerind family is almost universally rejected, when there is in fact far more evidence supporting Amerind than there is in support of Australian. The claim that Indo-European has not been shown to be related to any other family would be equally incomprehensible, and the claim that all linguistic evidence evaporates after 6,000 years would be immediately seen to be contradicted by the Indo-European evidence itself. What the Martian taxonomist would make of all this is hard to imagine. What *we* should make of it, however, is clear: concerning linguistic classification, most linguists know what they have been taught; and few have ever examined the evidence firsthand.

It is my goal, in this book, to demonstrate that the field of linguistic taxonomy, far from having been exhausted in the nineteenth century, and notwithstanding decades of neglect, is ripe for the production of more penetrating analyses. The field, in fact, has only begun to move beyond the obviously valid families identified in the preliminary stages of research so long ago; and, although much is firmly established, much also remains to be worked out. In short, linguistic taxonomy was arrested before it had a chance to flower. This book seeks to reopen these vital questions, and to show that their exploration will lead ultimately to a better understanding of the structure of the human population, on the basis of linguistic evidence. That endeavor is not only a goal for comparative linguistics, but also a debt that linguists have long owed to the other human sciences. To continue pretending that there is no evidence for linguistic prehistory prior to 4,000 B.C. will no longer do.

Each of the essays in this volume was written to answer a certain question, to respond to a particular criticism, or to assemble or develop material useful to those seeking to construct more comprehensive classifications of human languages. The first chapter, a revised version of a paper from the Santa Fe Institute workshop on the evolution of language, offers a general introduction to the methods and results of genetic linguistics, as I now see them. It is intended to be accessible to a broad audience, and it provides a general background for the other, more specialized essays.

Chapter 2 is a paper presented at the Cold Spring Harbor Centennial Symposium in September 1990. The organizers of this symposium, Richard

Dawkins and Jared Diamond, brought together scholars from six different fields in which evolution plays a prominent role (molecular biology, functional morphology, animal behavior, sexual selection, human society, and historical linguistics) and asked each group to explain to the others how its field distinguishes descent from a common ancestor from borrowing, convergence, and accidental resemblance. My paper attempted to address this question for language, and for linguistics the question essentially becomes, "What is the basis for the genetic classification of languages?"

The Khoisan family of languages, indigenous to southern Africa, is renowned for its click consonants, almost universally lacking in other language families. When Greenberg presented evidence for the Khoisan family in his pioneering classification of African languages in 1963, he provided etymologies connecting Hadza and Sandawe, two divergent languages of eastern Africa, with the more homogeneous Khoisan languages of southern Africa, which are themselves divided into three subgroups, Northern, Central, and Southern Khoisan. Thus Greenberg did not bother to provide etymologies connecting these three subgroups, believing their relationship was obvious. Yet the validity of even this southern African Khoisan family has been questioned by the South African linguist E. O. J. Westphal. In Chapter 3 I compare the three Khoisan subgroups, using material gathered by Dorothea Bleek, and try to identify probable cognate forms among the three branches. The several hundred suggested etymologies have two purposes: first, they show that the three subgroups are genetically related, beyond any doubt; and, second, they provide material from Khoisan that may be compared with similar data from other families in the ongoing endeavor to determine the place of the Khoisan family within the world's languages.

The Yeniseian family, a half-dozen attested languages, now reduced to a single extant language, Ket, has long been considered a mysterious isolate, and information on the family has been sparse in languages other than Russian. In the early 1980's the Russian scholar Sergei Starostin reconstructed the Proto-Yeniseian language on the basis of available materials; at the same time he suggested connections with the Sino-Tibetan and (North) Caucasian families, forming a higher-level family that he named Sino-Caucasian, now usually called Dene-Caucasian (see Chapter 1). Chapter 4 presents a translation of Starostin's Proto-Yeniseian reconstructions, the supporting evidence in the Yeniseian languages, and Starostin's extra-Yeniseian comparisons. I have added a few comparisons with Na-Dene, Nahali, Burushaski, and Basque, but otherwise the work is entirely Starostin's.

A little over a decade ago several linguists called into question the validity of Edward Sapir's Na-Dene family, which is scattered across western North America, chiefly in the northwest. They argued that the Haida language

did not belong to this family, contrary to Sapir's claim. In his book on the classification of New World languages, Greenberg devoted a chapter to the "Na-Dene problem," arguing that Sapir's original evidence was fully sufficient to show the affinity of Haida with Na-Dene. Greenberg had, in fact, compiled a Na-Dene notebook, a mine of data that he might have used to demonstrate further the affinity of Haida with Na-Dene, had he felt it necessary. In Chapter 5 I have used his Na-Dene notebook to identify probable cognates among the constituents of Na-Dene: Haida, Tlingit, Eyak, and the Athabaskan family. The resulting etymologies leave little doubt that Haida belongs with the other Na-Dene languages, as claimed by Sapir. They also provide material from this poorly documented family that may be compared with that of other families, material that is in fact employed in the preceding chapter.

The publication of Greenberg's classification of native American languages in 1987 unleashed a torrent of invective from specialists in American Indian languages, not unlike the reception accorded Darwin's *Origin of Species* in 1859. Even before the book appeared, one scholar called for Greenberg's classification to be "shouted down," and after publication, another scholar called it "subversive." Chapter 6 attempts to place this ongoing controversy in its proper historical context, tracing its origins to similar debates waged at the turn of this century. The essay also analyzes the criticisms of Greenberg's opponents, showing that they are often methodologically unsound, and at times even intellectually dishonest. The dynamics of their assault, seen against Greenberg's prior record of achievement, are grist for historians and pathologists of science.

In his classification of Native American languages, Greenberg listed each etymology under a semantic gloss, without a corresponding phonetic gloss. As a consequence of this decision there was no overall semantic index carrying the associated phonetic glosses for the 2,000-odd etymologies contained in the book. Chapter 7 provides such an index, and also indicates cases where etymologies from Amerind subbranches should be combined in a higher-level Amerind etymology (see Chapter 8).

In all of the scathing reviews of Greenberg's book *Language in the Americas*, its chief defect was hardly mentioned, namely, that the book contained *more* evidence for Amerind than he had claimed. Not infrequently, etymologies that Greenberg posited for one or more Amerind subfamilies are semantically and phonologically similar to etymologies in other branches, and all should thus have been combined as additional Amerind etymologies. Chapter 8 lists these additional etymologies.

In *Language in the Americas* Greenberg posited a root TANA 'child,' whose distribution was apparently restricted to North America; he also pointed out an -i- (masc.)/-u- (fem.) alternation in South American Amerind languages.

Chapter 9 extends Greenberg's original analysis by showing that both the lexical item in question and its phonological alternation are found throughout the Americas. Furthermore, the item and the alternation are intimately connected, in the sense that extant languages suggest that Proto-Amerind originally had three distinct forms of the lexical item: *TINA 'son, brother,' *TUNA 'daughter, sister,' and *TANA 'child, sibling.' The widespread distribution of this morphologically complex pattern throughout the Americas, and its absence elsewhere in the world, demonstrates the obvious validity of Amerind no less than does the celebrated *n*- 'I' / *m*- 'thou' pronominal pattern.

One element in the mythology of twentieth-century comparative linguistics has been the notion that there are no recognizable genetic connections between the language families of the Americas and those of the Old World. The logic of this view is impeccable: if all trace of genetic affinity disappears after 6,000 years, then there cannot be recognizable connections between the Americas and Asia, since the New World is known to have been inhabited for at least 12,000 years. The empirical evidence, however, belies the logic. Of the three families that Greenberg posited for the Americas, each is more closely related to certain Old World language families than it is to the other two, thus yielding evidence for three distinct migrations from Asia to the Americas. The third, most recent migration brought to the New World the Eskimo-Aleut, whose closest relatives are the various language families spread across northern Eurasia that Greenberg groups together under the name Eurasiatic, and that Russian scholars call Nostratic. The second, prior migration had brought the Na-Dene family, whose Asian connections are with the other members of the Dene-Caucasian family (see Chapters 1 and 4). Chapter 10 presents linguistic evidence for the first migration, that which had brought the speakers of Proto-Amerind to the New World. This essay argues that Amerind is most closely related to the Eurasiatic family; but whereas Eskimo-Aleut is simply the easternmost constituent of Eurasiatic itself, Amerind is related at greater remove to the higher-level taxon Eurasiatic.

Chapter 11 traces the distribution of a single lexical item from North Africa, across Eurasia, and throughout the Americas. The length of the item in question—the item is triconsonantal—and its presence in so many different families with similar, but slightly different meanings, argue strongly for a common origin for all the forms. In addition, this essay shows how the wider comparative picture may at times clarify certain problems within specific families, problems that cannot be resolved on a family-internal basis.

It has long been recognized that first- and second-person singular pronouns are among the most stable semantic meanings in human language. Indeed, such pronominal similarities are often among the first characteristics noticed in the more ancient linguistic families, such as Eurasiatic, Dene-Caucasian,

and Amerind. During the debate over Amerind between Greenberg and his critics, the meaning—and even the existence—of the widespread Amerind pattern *n*- ‘I’ vs. *m*- ‘thou’ was much discussed, and Greenberg’s critics offered a bewildering variety of possible explanations in their determination to avoid accepting Greenberg’s simple explanation of common origin. It was even claimed by some, though without any supporting evidence, that such nasal sounds might persist naturally in many parts of the world, and thus that their prevalence in the Americas should not be thought unusual. To test this hypothesis I collected these two pronouns for all of the world’s established linguistic families, according to the best information at my disposal. These data are given in Chapter 12; they show quite clearly, I believe, that there is no support for the conjecture of worldwide nasality. The Amerind pronominal pattern is a characteristic specific to the Amerind family, one found nowhere else in the world. As such it remains one of the bedrock foundations of Amerind, as has been recognized throughout this century by Trombetti, Sapir, Swadesh, Greenberg, and others.

The question of the possible monogenesis of human language has, during this century at least, been virtually taboo. Of course, if one accepts the thesis that the Indo-European family has no recognizable genetic connections with any other family, as most linguists do, then such questions do not even arise. But if one does accept the idea that Indo-European is clearly related to a whole host of other families, as demonstrated beyond any reasonable doubt by the Russian Nostraticists, then one faces the hard question of just how far one might go. The final two chapters discuss these questions from somewhat different perspectives. Chapter 13 seeks to understand the almost fanatical opposition that these questions have engendered, such that to the present day even the discussion of broad genetic connections remains a taboo topic in the pages of *Language*. The origins of this unreasoning hostility are traced to similar debates at the beginning of this century.

Chapter 14, written in collaboration with John Bengtson, approaches the question from a strictly empirical perspective. We have sought to compare all of the world’s language families simultaneously in order to see whether they do, or do not, share common elements that would imply a common origin for all extant languages. We found, as did such predecessors as Alfredo Trombetti and Morris Swadesh, that there are in fact many such elements, and in this essay we present etymologies for 27 of what seem to us the most widespread of these. In addition to presenting evidence for the monogenesis of (extant) human languages, this chapter also seeks to reconcile the Greenberg approach of multilateral comparison with what is usually described as “traditional historical linguistics.” We argue that Greenberg’s approach—which in reality is simply linguistic taxonomy—is a necessary first stage in the comparative

method, one that must be undertaken before the second stage, traditional historical linguistics, can begin its task of the reconstruction of proto-languages and the discovery of sound correspondences like Grimm's Law. The confusion of these two stages, and the mistaken belief that reconstruction and sound correspondences play a crucial role in linguistic taxonomy, are pervasive in the writings of Greenberg's critics.

Historians of science will, I believe, one day focus on the peculiar development of comparative linguistics in the twentieth century. During this century historical linguists have persistently belittled both the methodology and the empirical data of their own field, protesting that they have nothing to contribute to an understanding of the origin and evolution of our species before roughly the historical epoch. According to this traditional view, the world contains literally hundreds of language families among which there are no visible genetic connections. This book addresses the underlying causes of this collective myopia and the evidence that demonstrates just how mistaken these received views are. The various chapters do not provide final answers to all of the questions of linguistic classification, but they do suggest that answers more comprehensive than those now commonly accepted are possible. If this book serves merely to reopen the debate on linguistic taxonomy, after a century of stagnation, it will have served its purpose.

1

An Overview of Genetic Classification

The past decade has witnessed a reawakening of interest in the genetic classification of languages and the implications of such a classification for the prehistory of the human species.* Here I shall review several lines of recent research that bear on these questions. In particular, I will argue that the notion that Indo-European is unrelated to any other family is little more than a linguistic myth, as is the parallel idea that the New World contains scores of independent families. Contrary to the almost universal belief that linguistic families such as Indo-European, Uralic, Dravidian, Sino-Tibetan, Austronesian, Australian, etc., share no recognizable cognates, there are in fact numerous etymological connections among the world's language families (see Chapter 14), and they should be investigated in depth to see what import they may have for the prehistory of modern humans.

THE DISCOVERY OF COMPARATIVE LINGUISTICS

The evolutionary explanation for linguistic diversity was discovered some time before Darwin's parallel discovery of evolution by natural selection in

* This essay originally appeared in *The Evolution of Human Languages*, ed. by John A. Hawkins and Murray Gell-Mann, 1992, Reading, Mass. It is reprinted here with minor modifications. I would like to thank Joseph Greenberg for allowing me to use data from his forthcoming book, *Indo-European and Its Closest Relatives: The Eurasiatic Language Family*, Stanford, Calif., Stanford University Press. I would also like to express my appreciation to Lionel Bender, John Bengtson, Allan Bomhard, Joseph Greenberg, and John Hawkins for critical comments on an earlier version of this paper.

TABLE 1 Indo-European Cognates

Word	Anatolian	Tocharian	Armenian	Albanian	Indo-Iranian
I	uk		es		ahám
me	ammuk		es		mám
thou		twe	du	ti	tuvám
who?	kuis	kuse	ov	kush	kás
what?	kuit	kuse	z-i	çë	kím
that		te	da		tát
not	natta				ná
one				një	ékas
two	twi-	wi	erku	dy	duvǎ
three	tri-	trey	erek'	tre	tráyas
foot	pat(a)-	paiyye	otn		pád-
eye		ek	akn	sü	ákxi-
tooth		keme		dhëmp	dán
nose					nās-
heart	kart-		sirt		
knee	kenu	keni	cunr	gju	jǎnu
flesh/meat		misa	mis	mish	mānsa-
water	watar	war		ujë	udakám
fire	paḥhur	puwar	hur		
tree/wood	taru				dǎru
month/moon		meñe	amis	muai	mās-
cow		keu	kov		gáv-
dog	śuwana- ²	kwen-	šun		šván-
wolf				ulk	vǃka-
sheep			hoviw ⁸		ávi-
mouse			mukn	mī	mūš-
father		pācer	hayr		pitár-
mother		mācer	mayr		mātár-
name	lāman	ñem	anun	émën	nāman-
old			hin		sánas
new	newas	ñuwe	nor		návas
is	estsi	ste	ē	është	ásti
eats	etstsi		utē		átti
carries		parän	berē	bie ⁴	bhárati
die/death	merta		mah		mṛtá-

Notes: Unless specified otherwise, Anatolian is represented by Hittite, Tocharian by Tocharian B, Indo-Iranian by Sanskrit, Italic by Latin, Celtic by Old Irish, Baltic by Lithuanian, Slavic by Old Church Slavonic, and Germanic by Gothic.

¹Latvian, ²Hieroglyphic Luwian, ³'oak,' ⁴'brings,' ⁵'alone,' ⁶'in compounds,' ⁷'evil,'

Greek	Italic	Celtic	Baltic	Slavic	Germanic
egō	ego		āš	azŭ	ik
eme	mē	mé ²²	manè	mę	mik
su	tū	tú	tù	ty	eu
tis	quis	cía	kàs	kŭto	hwas
ti	quid	cid	kàs	čŭto	hwa
to			taĩ	tŭ/ta	ea
	ne-	ní-	ne-	ne	ni
oi(w)os ⁵	ūnus	oín	vienas	ino- ⁶	ains
duo	duo	dó	dù	dŭva	twai
treis	trēs	trí	trŷs	trięe	θrija
pod-	ped-		péda ¹⁸	pěši ¹⁹	fōtus
ópsomai ¹⁰	oculus	enech	akis	oko	augō
odón	dēns		dantis	zqbŭ	tunēus
	nāsus		nosis	nosŭ	nasa ⁹
kardiā	cord-	cride	širdis	srŭdŭce	hairtō
gonu	genū	glún			kniu
	membrum ¹⁴	mīr ¹⁵	mésa	męso	mimz
hudōr		uisce	vanduō	voda	wato
pūr	pir ¹⁶				fōn
doru		daur ³		drēvo	triu ¹⁷
mén	mēnsis	mī	ménuo	měšęcŭ	mēna
bous	bōs	bó	gŭovs ¹	govędo	kuo ⁹
kuōn	canis	con-	šuo-		hunds
lúkos	lupus	olc ⁷	vīlķas	vlŭkŭ	wulfs
ó(w)is	ovis	ōi	avis	ovŭca	ouwi ⁹
mūs	mūs			myšŭ	mŭs ⁹
pater-	pater	athair			faðar
māter-	māter	máthair	mótina	mati	muotar ⁹
onoma	nōmen	ainm	emmens ¹³	imę	namo
hénos ¹²	senex ²¹	sen	sēnas		sineigs
ne(w)os	novus	nue	naŭjas	novŭ	niujs
esti	est	is	ēsti	jestŭ	ist
edei	ēst		éda	jasti	itan
pherei	fert	berid		berę ²⁰	bairan
ámbrotos ¹¹	mortuus	marb	miřti	mŭřq	maurēr

⁸'shepherd,' ⁹Old High German, ¹⁰'I will see,' ¹¹'immortal,' ¹²'last year's,' ¹³Old Prussian, ¹⁴'limb, part of the body,' ¹⁵'portion, morsel,' ¹⁶Umbrian, ¹⁷'stick of wood,' ¹⁸'foot-track,' ¹⁹'on foot,' ²⁰'bring together,' ²¹'old man,' ²²'I.'

biology. It is customary to recognize as the starting point of comparative linguistics Sir William Jones's lecture in 1786, in which he asserted that Sanskrit, Greek, and Latin bear "a stronger affinity, both in the roots of verbs and in the forms of grammar, than could have been produced by accident; so strong that no philologer could examine Sanskrit, Greek, and Latin, without believing them to have sprung from some common source, which, perhaps, no longer exists. There is a similar reason, though not quite so forcible, for supposing that both the Gothic and the Celtic had the same origin with the Sanskrit" (quoted in Robins 1968: 134). In time, the linguistic family that Jones had perceived came to be known as Indo-European, and during the nineteenth century its investigation was one of the principal focuses of linguistic scholarship. A sample of Indo-European cognates is given in Table 1.

In reality, a number of linguistic families had been recognized even before Indo-European, and during the nineteenth century many other families were recognized in various parts of the world. Moreover, pioneering Indo-Europeanists such as Rasmus Rask, one of the founders of comparative Indo-European linguistics at the beginning of the nineteenth century, did not hesitate to apply the comparative method to other languages around the world, and it was in fact Rask who first recognized that Aleut and Eskimo form a family in the same manner as do the Indo-European groups enumerated by Jones. Nor did Rask hesitate to compare the families he identified *with each other*, and in this regard made a number of startling discoveries, one of which was the connection between the Eskimo-Aleut family and the Samoyed family (located in northwestern Asia), both of which exhibit a dual suffix in *-k* and a plural suffix in *-t*. We shall see below that this *k/t* contrast between duals and plurals is even more widespread than Rask had noticed, and is in fact one of the characteristics of a language family that Joseph Greenberg calls Eurasiatic (Greenberg, to appear), which will be discussed below.

Twentieth-century linguistics, with its emphasis on synchronic (ahistorical) explanations, has had a flavor wholly different from that of nineteenth-century scholarship, which prized the diachronic (historical) explanation above all else. Furthermore, during the twentieth century, genetic linguistics has, with several notable exceptions, stagnated and even retrogressed, for reasons that are discussed in Chapter 13. Twentieth-century Indo-Europeanists, again with a few notable exceptions, have been consistently hostile toward all attempts to connect Indo-European with *any* other linguistic family. In Asia a connection between the Uralic (Finno-Ugric, Samoyed) and Altaic (Turkic, Mongolian, Tungus) families, which was widely accepted in the nineteenth century, has fallen into disrepute, and even the genetic affinity of the three Altaic families is now questioned by some specialists. Similarly, scholars studying Native American languages have taken pride in the bewildering number of supposedly

Khoisan (S Africa)	Chukchi-Kamchatkan (NE Asia)
Niger-Kordofanian (C&S Africa)	Eskimo-Aleut (N America)
Nilo-Saharan (C Africa)	Sino-Tibetan (E Asia)
Afro-Asiatic (N Africa)	Austroasiatic (SE Asia)
(North) Caucasian (SE Europe)	Miao-Yao (SE Asia)
Kartvelian (S Europe)	Daic (= Kadai) (SE Asia)
Indo-European (S&W Eurasia)	Austronesian (Oceania)
Uralic-Yukaghir (N Eurasia)	Indo-Pacific (New Guinea)
Dravidian (S India)	Australian (Australia)
Altaic (C Asia)	Na-Dene (N America)
Yeniseian (C Asia)	Amerind (N&S America)
Korean-Japanese-Ainu (E Asia)	

Figure 1. The World's Language Families (adapted from Ruhlen [1987])

independent language families in the Americas, which by some accounts would surpass 200.

The major counterweight to this general apathy toward genetic classification has been the work of Joseph Greenberg, who over a period of forty years (1950–90) classified the languages of Africa (Greenberg 1963), New Guinea (Greenberg 1971), and the Americas (Greenberg 1987) into small numbers of families: four for Africa, two for New Guinea, and three for the Americas. Before Greenberg's work these areas were believed to contain dozens—if not hundreds—of independent language families, among which there were no apparent connections. In the light of Greenberg's findings we may now classify all of the world's languages into fewer than two dozen families, as shown in Figure 1, excepting only a few isolated languages (Basque, Burushaski, Gilyak, Nahali) without any apparent relatives, and even those isolates are beginning to find their way into global classifications.

OPPOSITION TO LONG-RANGE COMPARISON

In one sense the term "long-range comparison" is infelicitous and misleading, for it implies that comparison of linguistic families is in some sense different from the "short-range comparison" of individual languages. Sometimes this fictional dichotomy is phrased in terms of "phylum linguistics" vs. "family linguistics," where by the latter is meant standard comparative linguistics as worked out by Indo-Europeanists, while the former is regarded as little more than "broad-based guesses about distant linguistic and other relationships whose ultimate nature is in fact very uncertain" (Hopper 1989: 818). In

reality, the comparative method proceeds in the same way at *all* levels of classification and should be applied in the same manner to comparisons between Indo-European and other families as it was to the Indo-European languages themselves. From a theoretical point of view, *nothing changes* in the higher levels of classification, except perhaps the density of the evidence.

During the late nineteenth and early twentieth centuries a reaction set in against all forms of long-range comparison. Although similarities between Indo-European and other Eurasian families had been noted by many scholars in the nineteenth century, their work has been largely overlooked and forgotten during the present century. Instead, linguists adopted the convenient fiction that Indo-European has no recognizable relatives. According to this view the comparative method is useful for only 5,000–8,000 years, which just happens to be the assumed age of Indo-European! Beyond this time depth, phonetic and semantic erosion have obliterated, so we are told, whatever traces of relationships Proto-Indo-European might once have had with other linguistic families, and cognates between such families will simply not be recognizable. According to Terrence Kaufman, “a temporal ceiling of 7,000 to 8,000 years is inherent in the methods of comparative linguistic reconstruction. We can recover genetic relationships that are that old, but probably no earlier than that” (Kaufman 1990: 23). Catherine Callaghan is no less dogmatic when she claims that “languages apparently lack such nonuniversal markers of remote genetic relationship” (Callaghan 1990: 16).

In support of such a view, the critics of attempts to find Indo-European’s relatives will point out that in less than 2,000 years Latin *aqua* ‘water’ has drifted into French *eau*, phonetically a single vowel [o], and in 5,000 years Proto-Indo-European **dwo* ‘two’ has been transformed into Armenian *erku* ‘two.’ Real cognates, according to this view, do not look alike and can be recognized only through a knowledge of the historical sound laws that have produced all the contemporary forms. And since we do not know what sound correspondences connect different families, we cannot possibly recognize what real cognates between families would look like. The chief fallacy with this argument is that, although French and Armenian did change in the ways indicated, other languages did not. Italian *acqua* ‘water’ is very close to the Latin form, and Greek and Latin *duo* are all but identical with the reconstructed form in Proto-Indo-European (PIE). Or consider PIE **nepōt* ‘nephew,’ which is reflected in modern Rumanian as *nepot*, virtually identical with the PIE form. Forms such as this, which are by no means exceptional, show just how far from the truth is the idea that after several thousand years all evidence of genetic relationship has changed beyond recognition. But even though the widely held notion that the comparative method is limited to the last 5,000–8,000 years can be shown to be little more than a cherished myth of

twentieth-century linguistics, it still does not follow that Indo-European is *necessarily* related in any obvious way to other families. This question can only be answered empirically, by actually comparing Indo-European with the rest of the world's language families.

EURASIATIC/NOSTRATIC

The search for the missing relatives of the Indo-European family has had a long and checkered history, and I will deal here chiefly with certain twentieth-century developments. From the beginning, the search has been plagued by certain methodological errors. First, because most scholars sought to find a *single* relative of Indo-European, most proposals tended to be of a binary nature. Whereas Indo-Europeanists would never dream of comparing Albanian and Armenian, by themselves, to prove they are related, it is precisely such an approach that was adopted in many of the attempts to prove that Indo-European is related to some family or other. The multilateral approach, which had been used exclusively in the study of Indo-European ever since Jones's lecture, was in time discarded in the comparison of language families in favor of a binary approach, but the weaknesses of binary comparison are by now so well known that we need hardly dwell on them (Ruhlen 1987).

The binary approach leads also into a second kind of error, namely, the belief that low-level families are more obvious than (and must be established prior to) the more remote higher-level families. Many scholars who study Native American languages believe, for example, that Amerind itself is the most weakly supported of Greenberg's proposed families in the New World, when in fact it is really more robust than some lower-level branches of Amerind. Consider the case of Austronesian, which parallels Amerind in several interesting ways. Both families resulted from a *rapid* expansion over a *vast* territory that was previously *uninhabited* by man (partially so in the case of Austronesian). Archaeological evidence indicates that the Amerind radiation is about twice as old as the Austronesian radiation, or perhaps even older. Now despite considerable work on the Austronesian family, its internal subgrouping remained largely unknown until recently, but the validity of Austronesian itself was never in doubt. Precisely parallel is the case of Amerind, whose validity no more than Austronesian's should be seen as depending on the prior validity of its components—for example, Almosan-Keresiouan, Almosan, Mosan, or even Salish—as some scholars claim.

A third major error, within the context of binary proposals, was that Indo-European was usually compared with language families that were seen as "worthy" relatives of Indo-European. Because nineteenth-century Indo-Europeanists were decidedly ethnocentric—in many cases even racist—not

TABLE 2 Eurasian Cognates

Word	Indo-European	Uralic	Turkic	Mongolian	Tungus
I ₁ ³²	*mē ⁻¹	*-m	men ²	mini ³	mini ³
I ₂ ³²	-x ³³	*-k			
thou	*tu~te	*ti~te		*ti	-ti
pronoun base	*e-g(h)o-m ⁵⁸	en-ge-m ⁷⁹			
who?	*k ^w ₁ ~k ^w _o	ken ¹⁵	*kim	ken	*xa ⁻¹⁷
what?	*jo~je ²⁴	*jo ⁻²⁴	je ⁻¹⁹	jayun	ja
this	kū ⁻³³		ku ³¹	-ku ⁸¹	
that	*to	*to	-ti	*te ⁻⁸	*ta-
not	*ne	*ne			
dual	-k ¹²	*-k	iki ¹³	ikire ⁷⁷	
plural		*-t	-t ¹⁴	*-t	-te
two	*dwō-				d'ur ⁷⁶
eye		nugie ⁵⁵		nūndun	nūndun
bark		*kopa	*kāp ⁵⁹		
feather		*tulka	tülüg ⁸⁸		
star	*(s)tēr	.			
fish	*(s)k ^w alo-s	*kala			*xol-sa
wolf	*w _l k ^w o-s	loqa ²⁷		noqa ²⁸	luka ²⁹
older brother		aka ⁴⁸	*āka	aka	akā
edge		*kăcă ⁴³		keči ⁴⁴	
wet		*ńorV	nurē ³¹	*nōr(u)-	*ńāru- ³⁰
dark	*pol ⁻⁵¹	*pil'mV	boz ⁵²	bora ⁵²	balu ⁵³
speak	*kel ⁶⁸	*kele ⁶⁹	*kāla	kele(n) ⁶⁹	
think	*med-	met ⁸²		*mede- ⁸³	mede ⁸⁴
sleep		uni ⁶⁴		no ⁶⁵	
eat	tap ⁴⁶	tēp ⁴⁷			dzəb
arrive	*tek ⁻⁶²		teg ⁻¹⁴		
take	*kap-	*kāpā-	*k ^h apa-	qaba-	*xapki- ³⁹
sharpen	*(s)pik ⁻³⁷		*pākā		*pākā
wash	arra- ³³		ari ³⁴	arun ³⁵	

Notes: Adapted from *Indo-European and Its Closest Relatives: The Eurasian Family*, by Joseph H. Greenberg, Stanford University Press, to appear. ¹'me,' ²Uzbek, ³'my,' ⁴expresses an emphatic wish on the part of the speaker, ⁵Old Japanese, ⁶'we,' ⁷'thy,' ⁸'this,' ⁹'there,' ¹⁰occurs marginally in expressions such as *to mo kaku mo* 'this and that,' ¹¹plural, ¹²Armenian plural in nouns, pronouns, and verbs, ¹³'two,' ¹⁴Old Turkish, ¹⁵Archaic Finnish, ¹⁶Kamchadal, ¹⁷interrogative base, ¹⁸indefinitizer, ¹⁹interrogative enclitic, ²⁰coordinating conjunction, ²¹privative suffix, ²²negative suffix, ²³'not to be,' ²⁴relative pronoun, ²⁵sentence interrogative, ²⁶Kerek, ²⁷'fox,' ²⁸'dog,' ²⁹'lynx,' ³⁰'swamp,' ³¹Chuvash, ³²first-person *m* is generally ergative or active, while first-person *k-* is absolutive, passive, or stative, where

Korean	Japanese	Ainu	Gilyak	Chukchi-Kamchatkan	Eskimo-Aleut
-ma ⁴	mi ⁵		me- ⁶	-m	-ma
				-k	-k
			ti	-t	-t ⁷
				i-γə-m ⁵⁸	*-m-kə-t ⁷⁸
-ka ¹⁹	ka ¹⁸	-ka ¹⁸	-ka ¹⁹	k'e ¹⁶	*kina
ja ²⁵	i ¹⁷ ~ja ²⁵	ja ²⁵	ja-	jaq ²⁶	
ki ⁸⁰	ko-no	ku-ri	ku ⁸⁰		
tjə	to ¹⁰	to ⁹		ti? ⁻⁸	*ta- ⁸
ani ²³	-na ²²	-nak ²¹			na-
		-ki	-gi	-k ¹¹	-k
		*-ti	-t	-ti	-t
tu		tu			
nun	nū-ŋ ⁵⁶	nu-	nū-n ⁵⁷	nannin ¹⁶	
kēpcil ⁶¹	kapa	sik-kap ⁶⁰	xip		
thɬɬɬɬ ⁸⁸		trax		ičelčlx ¹⁶	t ^s uluk ⁶⁶
tal ⁷⁴	teru ⁷⁵	tolibi ⁷³		tirkətir ⁷³	
			q'ol	klxin ¹⁶	iqaluk
		horokew	liγ-s		
	aka ⁵⁰	aki ⁴⁹	ikin		
*kət ^s	kisi ⁴⁵	kese			
	nure ⁵		ŋur		
			polm ⁵⁴	pylm	
			qlai ⁷⁰	kel ⁷¹	kiliyā ⁷²
mit ⁸⁵				mitəlhən ⁸⁶	misiyaa ⁸⁷
nuŋ	nun-uŋ ⁵⁰	enunui	nax ⁶⁷		*inay
	tabe-ru				tamaxta
tah	tukú				tikippuq ⁶³
kaph- ⁴⁰	kapu ⁴¹		kip	yyval?yn ⁴²	kiputi ⁴¹
	pikú ³⁸				*piγ-
	ara-u	ruye ³⁶			

³³Hittite, ³⁴'become clean,' ³⁵'clean,' ³⁶'rub gently,' ³⁷'point, nail,' ³⁸'grind,' ³⁹'seize by the neck,' ⁴⁰'repay,' ⁴¹'buy,' ⁴²'booty,' ⁴³'end,' ⁴⁴Dagur, ⁴⁵'shore,' ⁴⁶Tokharian, ⁴⁷'food,' ⁴⁸Yukaghir, ⁴⁹'younger brother,' ⁵⁰Ryukyuan, ⁵¹'gray, pale,' ⁵²'gray,' ⁵³'blind,' ⁵⁴'make blind,' ⁵⁵Yukaghir 'I have seen,' ⁵⁶Ryukyuan 'see,' ⁵⁷'see,' ⁵⁸'I,' ⁵⁹'cover,' ⁶⁰'eyelid,' ⁶¹Middle Korean, ⁶²'reach,' ⁶³Greenlandic, ⁶⁴Finnish, ⁶⁵Dunshan, ⁶⁶'quill of a feather,' ⁶⁷'sleeping place,' ⁶⁸'call,' ⁶⁹'tongue, speech,' ⁷⁰'converse,' ⁷¹'cry out, shout,' ⁷²Kuskokwim, ⁷³'sun,' ⁷⁴'moon,' ⁷⁵'shine,' ⁷⁶Evenki, ⁷⁷'twins,' ⁷⁸the bipersonal form of transitive verbs ('I . . . thee'), ⁷⁹Hungarian 'me,' ⁸⁰'that,' ⁸¹emphatic suffix, ⁸²Yukaghir 'inform,' ⁸³'know,' ⁸⁴'knowledge,' ⁸⁵'believe,' ⁸⁶'expert,' ⁸⁷'he perceives it,' ⁸⁸'hair.'

just any relative would do for their august language family. What followed from their ethnocentrism was that Indo-European would inevitably be compared first with the Semitic family, which includes Arabic, Hebrew, and Aramaic, and thus had long been seen as Indo-European's most prestigious neighbor. This choice was unfortunate, for two reasons. First, Semitic is without any doubt more closely related to other language families of North Africa, in a family known as Afro-Asiatic, than it is to Indo-European. Thus comparing Indo-European, a *family*, with Semitic, a *branch* of another family, was methodologically unsound from the outset. At best it is Afro-Asiatic as a whole that should be compared with Indo-European. Second, Afro-Asiatic is not as closely related to Indo-European as are numerous other families spread across northern Eurasia. Indo-Europeanists would have found much more substantial linguistic connections had they directed their attention to the Eskimo in his kayak, or to the Chukchi reindeer herders of easternmost Siberia, but these were not the kind of relatives they were looking for.

The first to move beyond binary comparisons was the Dane Holger Pedersen, who, early in the twentieth century, proposed that Indo-European was related not just to one family, but to several, in a higher-level family he called Nostratic. Originally, Pedersen's Nostratic included Indo-European, Semitic, Finno-Ugric, Samoyed, Yukaghir, Altaic, and Eskimo-Aleut, but its membership was never precisely defined, leaving open the possibility that other Nostratic languages might later be discovered. (I will return to this problem below.)

During the 1960's two Russian scholars revived and elaborated Pedersen's Nostratic hypothesis. Vladislav Illich-Svitych and Aron Dolgopolsky, at first independently and later together, set out to show that Indo-European is related to Afro-Asiatic, Kartvelian, Uralic, Altaic, and Dravidian. Over 700 etymologies, involving both grammar and lexicon, have now been published in support of these relationships (Illich-Svitych 1965, 1971-84; Dolgopolsky 1964, 1984). A summary of Nostratic work to date is given in Kaiser and Shevoroshkin (1988).

Recently, a family along the lines of Nostratic—with important differences—has been proposed by Greenberg (to appear). (See Figure 2.) Greenberg calls this family Eurasiatic and includes within it Indo-European, Uralic, Altaic (Turkic, Mongolian, Tungus), Korean-Japanese-Ainu, Gilyak, Chukchi-Kamchatkan, and Eskimo-Aleut. Evidence for this family is provided by 64 grammatical etymologies and over 500 lexical etymologies, many of which, it should be noted, overlap with Nostratic etymologies. A small sample of Eurasiatic cognates, adapted from Greenberg's book, is given in Table 2.

Even this brief table leaves little doubt that Indo-European is intimately related to a whole host of families running across northern Eurasia and into

North America. For example, no description of Indo-European has ever failed to note that the family as a whole is characterized by first-person *m*- 'I' and second-person *t*- 'you' (sing.), but Table 2 shows that these particular pronouns are of Eurasiatic origin, and are thus not unique to Indo-European. Furthermore (see the table), Eurasiatic distinguished two first-person pronouns, the aforementioned *m*- and another in *k*-, the original distinction being that *m*- was basically ergative or active, whereas *k*- was absolutive, passive, or stative, as can be seen in those families that maintain the distinction. Eurasiatic also possessed two interrogative pronouns, *ki* and *ja*, the former being generally personal ("who?"), the latter usually impersonal ("what?"). The demonstrative system also included two pronouns, a near demonstrative *ku* 'this' and a far demonstrative *to* 'that.' Finally, we might note the widespread distribution within Eurasiatic of a dual suffix *-k* and a plural suffix *-t*, a connection noted by Rask almost two centuries ago. In addition to such grammatical evidence there are numerous lexical items that run through Eurasiatic, a few of which are given in Table 2. Grammatical and lexical similarities such as these (and many others) cannot be the result of either chance or borrowing, but can be reasonably explained only as the result of common origin and subsequent diversification.

But what are we to make of the *differences* between Nostratic and Eurasiatic? As seen in Figure 2, both groupings include Indo-European, Uralic, Altaic, and Korean, but Eurasiatic adds to these Japanese, Ainu, Gilyak, Chukchi-Kamchatkan, and Eskimo-Aleut, while Nostratic adds not these, but Afro-Asiatic, Kartvelian, and Dravidian. The differences in the two groupings reflect the different methodologies used in their construction. The goal of Nostraticists has been to demonstrate that Indo-European is related to other language families; indeed, demonstrating that it is not an isolate is the very definition of Nostratic. Furthermore, Nostraticists place great emphasis on comparing only families that have been reconstructed, preferring not to take into account those that have not. Greenberg, by contrast, has approached the problem of Indo-European relatives from a totally different vantage point. As in all of his taxonomic work, he has not tried to prove that X is related to Y, but rather has simply *classified* the world's languages (and language families). Relationships are a derivative property of a classification, not a primary goal. Thus in determining the constituency of Eurasiatic, Greenberg considered *all* potentially relevant families, reconstructed or not, and came to the conclusion that certain Eurasian families are more closely related to each other than they are to other language families, and thus collectively define Eurasiatic. Greenberg does not doubt that Afro-Asiatic, Kartvelian, and Dravidian are related to Eurasiatic, but considers these relationships more distant.

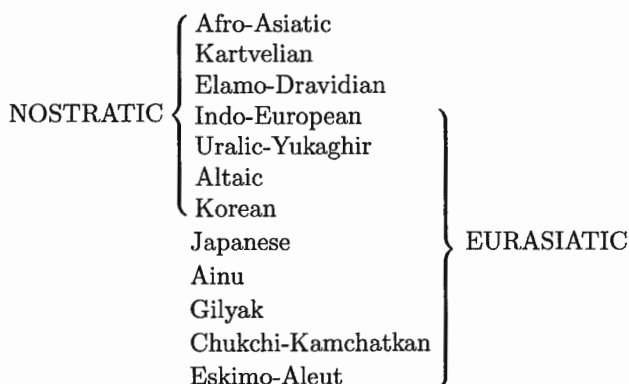


Figure 2. Comparison of the Nostratic and Eurasiatic Language Families

Thus Eurasiatic is intended to be first and foremost a valid linguistic taxon, or family. Nostratic, by contrast, at least in its classic six-family version, is definitely not a valid taxon, since it leaves out certain families (all of them families that Greenberg includes in Eurasiatic) that are clearly more closely related to Indo-European than is, for example, Afro-Asiatic. Sergei Starostin (1989: 43) expresses a similar view regarding Afro-Asiatic: "I prefer presently to exclude Afro-Asiatic material from the Nostratic comparisons. This does not mean, of course, that Afro-Asiatic parallels for Nostratic roots . . . are all accidental 'look-alikes.' They may purely reflect a relationship between Afro-Asiatic and Nostratic at some deeper level."

Still, because at one time or another Nostraticists have included within Nostratic all the families Greenberg includes in Eurasiatic, the inclusion of these families in Nostratic presents no real problems. What *is* disturbing is the continual addition of more and more families to Nostratic as scholars perceive that etymological connections run even deeper than classical Nostratic. Recently, Kaiser and Shevoroshkin (1988) have suggested adding Nilo-Saharan and Niger-Kordofanian to Nostratic. At this level there would be little, if any, difference between Nostratic and Proto-World. And indeed Nostratic might well be interpreted in just this manner, as a metaphor for long-range comparison, which when followed to its logical conclusion leads to a single human family.

Nostraticists have certainly proved what they set out to show, namely, that Indo-European is in no sense an isolated family without demonstrable relatives. But by largely overlooking the crucial initial step in the comparative method—classification—they have reconstructed, with regular sound correspondences, a linguistic family that never existed. This is not to disparage the very valuable work that the Nostraticists have produced, but simply to

cast it in a different light, suggesting that it needs to be examined in an even broader context before we can determine the true meaning of each Nostratic trait.

AMERIND

Probably the most important contribution to genetic linguistics in the 1980's, and certainly the most controversial, was the appearance of Greenberg's (1987) classification of the indigenous languages of the Americas. In this work Greenberg presented evidence that the New World languages are to be classified into just three families: Eskimo-Aleut, Na-Dene, and Amerind. Since Eskimo-Aleut and Na-Dene had long been accepted, what was controversial was Greenberg's proposal to classify all other Native American languages, which cover most of North America and all of South America, into a single Amerind family. In support of this family Greenberg proposed over 300 etymologies, and on the basis of the etymologies given by Greenberg for the 11 separate Amerind subgroups I have suggested an additional 150 Amerind etymologies (see Chapter 8). Given the prevailing opinion of American Indian specialists that the New World contains some two hundred independent families (Campbell and Mithun 1979, Kaufman 1990), Greenberg's amalgamation of all these families save two has met with incredulity, outrage, and dismay. Space does not permit an extended discussion of the controversy provoked by Greenberg's Amerind proposal, but a general history of Amerindian classification is given in Ruhlen (1987), and a discussion of the issues involved in the ongoing controversy over Amerind may be found in Chapter 6.

Rather than entering into the often obscure argumentation over Amerind, I will instead briefly review the most persuasive piece of evidence that Amerind is a valid linguistic taxon within the world's language families, despite the generally negative reception from the establishment experts. We have seen that Eurasiatic is characterized by the pronominal system *m-* 'I' and *t-* 'you' (sing.), but except for Eskimo-Aleut in the far north, this pronominal pattern is virtually absent in the New World. In its place we find a different pattern, *na* 'I' and *ma* 'you' (sing.), that is perhaps the most salient characteristic of the Amerind family, widely attested throughout North and South America. By reviewing how this particular pronominal pattern has been viewed by various scholars during this century, we may render in miniature the outlines of the Amerind controversy itself.

The first to call attention to the high frequency of this pattern in the New World (as far as I have been able to determine) was Alfredo Trombetti, who documented the pattern in numerous American Indian languages, throughout North and South America, in his 1905 book. Moreover, Trombetti did not

TABLE 3 Amerind Cognates

Word	Almosan-Keresiouan	Penutian	Hokan	Central Amerind	Chibchan-Paezan
I	*ne ¹	na?	na	nā ²	nan
thou	-m	ma	mai	am ⁴	ma
who?	?aqi- ⁵¹	gu	kī	*haka	kin
where?	mana ⁸	mani			mani
that	-t- ¹³	t- ¹²	t- ¹¹		
not	*kaθ-	kwa?	kam	*ka	ka
two	maʔɪ	palo-		pahn	palu
hand	maχwa ⁶	makan	mane	*maka	man
tooth	t ^s aām ⁵⁴	tsam ⁵⁵	iʔt ^s aw	*tam	dau
eye	-tu?	tu	-ītu	*te	ičui ⁵⁶
mouth	iʔə/iha		ja?		
foot	*si	sija?	saʔje	siha	
leg	*-θōk-an-	ʔa?	tek	t ^s aku	
knee	*-ketek ^{w-i}	ikat			ikuēt
vagina	-neʔe	neʔēs	i'un?		
girl	tuña	tūne ⁴⁸		*tun ⁴⁹	tuntu ³⁴
aunt		pinūkin	pane-	*pan	puna ⁵⁷
snake		kan	xan ⁱ ⁵⁹	kunze	
ant	t ^s axuna	t ^s okun		sikuwi	
bird	t ^s it ^s iʔe/t ^s ēk	č'ik'	šik	tsikie	eš'εka-
fly (n.)	t ^s āpi	čap	-komo-		
urine	ošewa ³²	wiuš	wisāk		wisi
water ₁	paʔah	bai ³⁵		p'āide	pui
water ₂	*akwā ⁴³	oka?	aqa	*g ^w a ⁴²	aka
tree ₁	tepō	tumaj ²⁹		tebe ³¹	jutube
tree ₂	ondata	ito		*tua ¹⁶	
thorn		ōnoxk			
covering			šik'o ²⁰		teka-ra ²¹
good	čema		t ^s ama	*t ^s am	t ^s ama
dark	atek	tek ⁴⁰		tuk ⁱ ⁴¹	tsix-
left (hand)	qat ^s /kes-	kets	kasark	kuč'ē	kuts-
swallow	m'ɪχ ^{w38}	mülk'	malqi ⁷³⁹		murki
see	t ^s i ⁱ ⁶³	t ^s elei ²³		tsi ²⁴	tili
say	-wāɪ	wili			
go	wā ²⁵	waj ²⁶	wan		wan

Notes: ¹'my,' ²I, we,' ³'we,' ⁴'thou, you,' ⁵'thy,' ⁶'give a potlatch,' ⁷'give,' ⁸'who?,' ⁹'he,' ¹⁰'he, she, it, they,' ¹¹a stage III article, i.e. a mere marker of nominality, ¹²'his, her, its,' ¹³a petrified article appearing between third-person possessive pronouns and nouns beginning with a vowel, ¹⁴'leg,' ¹⁵'see,' ¹⁶'oak tree,' ¹⁷'say,' ¹⁸'younger sister,' ¹⁹'woman,' ²⁰'blanket,' ²¹'poncho,' ²²'woman's shirt,' ²³'look,' ²⁴'eye,' ²⁵'come,' ²⁶'walk,' ²⁷'tell,' ²⁸'speak,' ²⁹'stick, wood,' ³⁰'firewood,' ³¹'wood,'

Andean	Macro-Tucanoan	Equatorial	Macro-Carib	Macro-Panoan	Macro-Ge
naja	en ³	no	ana ³	no	nu
-ma ⁵	ma	ma	ama	em	ma
kunna				kine-	huna
maj	-māni	mañi			manē- ⁵²
ta ¹⁰	toho	tu	da	ta	ti ⁹
kaa	kai	kaoka		ka	ka
pula ⁵³	p'ālin				
maki	-muka	*meʔeŋ	emekun	moken	mako ⁷
		iti	itie	*e-t ^s e	i-tio
	etu	tu	etoj	e-tua	toi
ja	iaʔa	iahoj	íixa	*joʔi ¹⁷	ia
		-šej	iši	ise ¹⁴	
čaki ⁴⁷	toʔa ⁴⁷	taxu ⁴⁷	take	*taʔi	etage
	*kat'	-ikketi	-kudo-	kat ^s ege	-gete
	-eʔne ³³		iani		
	ton ⁴⁸	tana	itaño	tanani ¹⁹	tontan ¹⁸
epan	āebn	penawa	ebuño	*e-pona ¹⁹	pan- ⁵⁸
kuni	kiane		koni	kouni	kuni
čakon		sik'imara			
t ^s ikt ^s i ³⁷	šaga	čiki	sikii	e-jikidi ³⁷	t ^s i ^{pe} ³⁷
	kob	kāāp	okoma ⁶⁰		kap/kā
		uši	usu	yius ³²	iši
	poi ³⁶	bušš			beia ³⁵
jaku	okōa	ako	woku ⁴⁶	uaka	waka ⁴⁶
	temba ³⁰	-timbeu ³¹	tapasej	tome ³¹	
		andu	itua ⁴⁴	isu ³¹	
	ñāka	onak			
takun ⁴⁵		dikexe ⁴⁵			deku ²²
suma	-čemači ⁵⁰	-t ^s iama ⁵⁰		utsama	
	asikē ⁴¹	sikia ⁶¹	tuku- ⁴¹	tuxlin ⁶¹	*tik ⁴¹
		kuču-			*keč
malq'a ³⁹		mirko ⁶²	eʔmōkī		
tef ²⁴		tiji			-čir
wilje ²⁷	wála ⁶⁴		uri- ²⁸		wenni ²⁸
-wen-	w'an ²⁵	awani		wo-	-va

32, 'urinate', 33, 'vulva', 34, 'niece', 35, 'rain', 36, 'to wet', 37, 'bat', 38, 'chew food', 39, 'throat', 40, 'green', 41, 'black', 42, 'river', 43, 'from water', 44, 'forest', 45, 'dress', 46, 'drink' (n.), 47, 'foot', 48, 'daughter', 49, 'girl', 50, 'beautiful', 51, 'what?', 52, 'when?', 53, 'both', 54, 'chew', 55, 'bite', 56, 'look at', 57, 'sister', 58, 'sister-in-law', 59, 'coral snake', 60, 'wasp', 61, 'night', 62, 'drink', 63, 'to spy', 64, 'talk.'

hesitate to give a genetic explanation for this distribution. Nor did Edward Sapir, when he became aware (independently) of the broad distribution of the two American pronouns. In 1918, in a personal letter to a friend, he wrote: "How in the Hell are you going to explain general American *n-* 'I' except genetically?" (quoted in Ruhlen 1987). Franz Boas, who preferred to attribute linguistic similarities such as these to diffusion rather than to common origin, was himself troubled by the broad distribution of *n-* and *m-* in the Americas, but for an explanation he could do no better than to suggest that "the frequent occurrence of similar sounds for expressing related ideas (like the personal pronouns) may be due to obscure psychological causes rather than to genetic relationship." In 1954 Morris Swadesh posited the *n-/m-* pronominal pattern for his Penutoid family, which included languages from both North and South America. Finally, Greenberg has shown in his recent book on Amerind that the *n-/m-* pattern is attested in all of his eleven Amerind subgroups.

Still, today, new and even more fanciful explanations are offered—without evidence—in attempts to do away with the "problem" of the Amerind pronouns. Sarah Thomason (1988) has recently proposed that "too many of the inherited shared features in the very distantly related languages are going to be unmarked, stable features [like *n-* 'I' and *m-* 'you'] that could just as easily be relics of parallel but historically unconnected attrition processes in unrelated languages." This is an empirical claim that can be tested, and in order to do so I collected the first- and second-person pronouns for all of the world's major linguistic families to see just how common the Amerind pattern really is (see Chapter 12). I did not find a single family anywhere else in the world that shares the Amerind pattern, which turns out not only to *define* the Amerind family, but at the same time to *differentiate* it from the world's other language families.

Amerind is a well-defined linguistic taxon, notwithstanding the clamor of certain experts. Not simply the pronominal pattern discussed above, but a wealth of other grammatical and lexical similarities, a few of which are given in Table 3, guarantee its validity. Table 3 presents some representative Amerind forms from different Amerind subgroups, most of them taken from Greenberg (1981, 1987; many additional cognate forms may be found in these two sources).

DENE-CAUCASIAN

Soon after Edward Sapir proposed the Na-Dene family in 1915, he became aware that this family shared many striking parallels with the Sino-Tibetan languages of East Asia. In a letter to Alfred Kroeber in 1920 he wrote: "I

do *not* feel that Na-Dene belongs to the other American languages. . . . Do not think me an ass if I am seriously entertaining the notion of an old Indo-Chinese offshoot into N.W. America. . . . At least I know that Déné's a long shot nearer to Tibetan than to Siouan" (quoted in Golla 1984: 350). A year later he wrote again to Kroeber on the same subject, this time more convinced than ever of a genetic affinity between Na-Dene and Sino-Tibetan: "If the morphological and lexical accord which I find on every hand between Na-Dene and Indo-Chinese is 'accidental,' then every analogy on God's earth is an accident. It is all so powerfully cumulative and integrated that when you tumble to one point a lot of others fall into line" (Golla 1984: 374). For reasons not known, Sapir never published any of the evidence he had assembled in support of the genetic affinity of Na-Dene and Sino-Tibetan. Perhaps the hostile reception accorded Na-Dene itself by Pliny Goddard, following soon after the equally hostile attack on Sapir's Algonquian-Ritwan proposal by Truman Michelson, convinced Sapir that even more distant proposals would not be considered at all, no matter what the evidence. In any event, Sapir's Na-Dene-Sino-Tibetan proposal fell into disrepute as yet another longshot that failed to convince, despite the efforts of a few supporters (Shafer 1952, 1957; Swadesh 1952).

During the 1980's, however, Sapir's idea was revived and extended by Russian scholars, albeit in a somewhat circuitous manner. First, in 1984, Sergei Starostin proposed a family including (North) Caucasian, Sino-Tibetan, and Yeniseian, which he named Sino-Caucasian. The following year V. A. Chirikba presented evidence connecting Basque with (North) Caucasian, an idea that had already been suggested with considerable supporting evidence by Trombetti in 1926. In 1986 Starostin's colleague Sergei Nikolaev offered evidence connecting Na-Dene with (North) Caucasian, thus constituting a larger family that is now usually called Dene-Caucasian. In this Russian work Sapir's original idea of a connection between Na-Dene and Sino-Tibetan is supported by the transitivity of genetic affinity (that is, if language A is known to be related to language B, and language B is known to be related to language C, then language C must be related to language A), even though the Russians have yet to compare Na-Dene with Sino-Tibetan, as Sapir did.

More recently John Bengtson (1991a,b) has taken the first multilateral look at all of Dene-Caucasian, and has proposed a significant amount of new evidence for this family, which in his view also includes Basque, Burushaski, and Sumerian. I have compared Starostin's Yeniseian reconstructions (Starostin 1982; see also Chapter 4) with Na-Dene etymologies (see Chapter 5), as well as with Nahali, and have discovered additional Dene-Caucasian cognates (see Chapter 4). It should be noted, as well, that Claude Boisson (1989) has compared Sumerian with both Dene-Caucasian (where Bengtson places it) and

TABLE 4 Dene-Caucasian Cognates

Word	Basque	(North) Caucasian	Burushaski	Sumerian	Nahali
I		*z ^{wo}	ja/je		juo
we	-t ¹⁵	*it ¹ ₁ ¹⁶			ṭē-ku ⁴⁵
thou ₁		*we ¹⁸	ū-ŋ		
thou ₂	-k	*Gu	gu-		
thou ₃					nā-ko ²³
who? ₁	ze-	*sa			
who? ₂	no-	*nV		ana ⁴⁰	nāni
tongue	mili- ⁸	*mēlt ^s ₁ i	-melč ⁹	-me	lāy
paw	hatz	*k ^w ac'e	qΛš ³⁴	kiš-ib ⁷⁹	
pupil (of eye)	-nini-	*nānV	nΛna ³⁹		
head		*sqā ¹⁸	-sk-īl ⁴⁴	sag̃	
cheek	gal-tzar ⁸⁰	*-G ^w āi ^w V ⁵⁴			
back	bi-zka-r	a-zk ^w a ⁴⁶	-sqā ²²		
blood	o-dol		del ⁵⁰		
elbow	u-kondo	*q ^w ΛntV			
vagina					
penis		*k'əlč'V ⁶⁷	-yūš ⁶⁹		
father		*b ^w ab ^w Λja	bΛba	ab.ba	aba
child		*kənt ^s ₁ V			giṭa ²⁸
otter	ur-txakur				
squirrel	sagu ¹⁰	*t ^s arku ¹¹	č ^h erge ³¹		
frog	i-gel	*q ^w VrV-q'V	gur-qut ^s		
water	i-toi ⁶¹	*tujV ⁶²	thī-š ⁶¹		
tree/wood					
day(light)	e-gun	*-GinV	gōn ⁴	gūn ⁵	
star	i-zar	*-d ^{zw} ārfi	č ^h ār ⁵²	-sar ⁵¹	
river					
ice	-tzig- ⁷⁰	t ^s iq̃ ⁷¹	č ^h Λy- ⁷²	šeg ⁷⁰	
cold			t ^h ātine	ten	
yellow		*t ^s ak ^w V ²⁴	šik-Λrk	sig ⁷⁷	
hungry	gose	*gāšī			
spit	to	*tūk'	thū		ṭhuk-
sleep			guč ^h - ⁵⁸		
bite		*qāt ^s ₁ i ⁵⁹			

Notes: Adapted from Starostin (1984), Nikolaev (1986), Bengtson (1991a,b), Ruhlen (1992e), and Starostin and Ruhlen (1992). ¹Newari, ²ocean, ³creek, stream, ⁴dawn, ⁵bright, ⁶Old Chinese, ⁷sun, ⁸lick' (cf. also *mihi* 'tongue'), ⁹jaw, ¹⁰rat, mouse, ¹¹marten, ¹²Carrier 'chipmunk', ¹³Kato, ¹⁴self, ¹⁵I, ¹⁶we inclusive, ¹⁷us, ¹⁸Proto-Northwest Caucasian, ¹⁹you, ²⁰what?, ²¹Old Chinese 'what?', ²²on one's back, ²³you-2, ²⁴yellow, white, ²⁵urinate, ²⁶green, ²⁷Tanaina, ²⁸younger brother or sister, ²⁹children, ³⁰Navajo 'son', ³¹flying squirrel, ³²knee, ³³Sarsi 'knee, elbow', ³⁴arm length from elbow to fingertips, ³⁵foot,

Sino-Tibetan	Yeniseian	Haida	Tlingit	Eyak	Athabaskan
jɪ ¹	*ʔad ²	ɪt ^{b17}		chuu	*sɪ *-ɪ'd
	*ʔu		weh		
*k ^w Vj	*kV-		ɣɪ ¹⁹		-h ^w ɪ ⁷³
*nan					nan ³⁸
	*ʔas-		ah-sa		
ʔan ²¹	*ʔan-				
*mlay					
	*kiʔs ³⁵			-kaša ³⁷	*-keč ³⁶
-sko ⁴⁷	*t ^s iʔG-	-ji	si ⁴⁸	-t ^s iʔ ⁴⁸	*-t ^s iʔ
*qālH ⁵⁵	*χol-	skwai		l-quhɬ	
				deɬ	*deɬ
	*gid			Guhd	gūd ³³
*džuk ⁶⁷		čúu			dzúž ⁶⁸
	*gans-			guč	ɣɪd ⁷⁴ ar ⁶⁸
*bwa	*ʔob				-ba ⁴¹
	*gaʔt ²⁹	gyɪt'	git'a	qēc'	ɣèʔ ³⁰
	*täχar				
*sräɲ	*saʔqa	-t ^s āk ^w	t ^s alk	t ^s aɬk'	t ^s olq ¹²
	*xiʔr-			čiaɬq	č ^w al ⁴⁹
*twiy		sū ⁶³			*tū
*siɲ		t ^s an-			t ^s in ⁴³
*k ^w āɲ ⁶	*gəʔn ⁵	kūɲ ⁷	-gan ⁷	jah	janih ⁵⁶
tšar ⁵³					
	*ses	sɪ(s) ²		sɪ ³	sis-kāā ²
-t ^s ik ⁷⁴	*tiχ ⁷⁵		t'iq'	t'it ^s	t ^h it ^s ⁷⁶
					*t ^h en ⁶⁴
*tsyak ⁴²	*täk- ⁷⁸	t ^s εgeɲ ²⁵	sūhw ²⁶	t ^s eʔq	t ^s ək ²⁷
k ^h ussɪ ⁶⁵					gas ⁶⁶
*(m-)tuk	*tuk		tux	tux	šek ¹³
	*xus-				ɣ ^w os ⁶⁰
		q'us-gat	k ^w ac ⁵⁷	q'ət ^s	gət ^s ¹³

36 'claw,' 37 (finger-)nail, 38 Galice, 39 'eyeball,' 40 'what?,' 41 Carrier, seemingly isolated within Na-Dene, 42 'gold, red,' 43 Navajo, 44 'face,' 45 'we-2,' 46 Abkhaz, 47 Tibetan, 48 'neck,' 49 Hupa, 50 'oil,' 51 'new moon,' 52 'morning star,' 53 'sun, moon, star,' 54 'side,' 55 'back, cheek,' 56 Tanaina, 57 'swallow,' 58 'lie sleeping,' 59 Proto-East Caucasian, 60 Coquille, 61 'a drop,' 62 'spit' (n.), 63 'lake,' 64 'ice,' 65 Hruso, 66 Galice 'become hungry,' 67 'vulva,' 68 Sarsi, 69 'vagina,' 70 'frost,' 71 Avar 'sleet,' 72 'cold,' 73 San Carlos Apache 'you,' 74 Garo 'cold,' 75 'snow,' 76 Hupa, 77 'yellow, green,' 78 'white,' 79 'hand,' 80 'side of body, flank.'

Nostratic, but because he leans toward a stronger affinity with the latter, the question of the affiliation of Sumerian is yet to be definitively settled. In Table 4 I have given a representative sample of some of the Dene-Caucasian etymologies proposed in the works enumerated above. As can be seen in the table, the basic pronouns are quite distinct from those of both Eurasiatic and Amerind, but form many connections among themselves. The additional grammatical and lexical evidence, only a very small fraction of which is given here, convinces me that these families—those constituting Dene-Caucasian—share a common origin, and that Sapir's long-neglected proposal was essentially correct, if incomplete.

THE MONOGENESIS OF HUMAN LANGUAGE

If we accept the proposals outlined above for Eurasiatic, Amerind, and Dene-Caucasian, as well as those for Austric (Austronesian, Daic, Miao-Yao, Austroasiatic), then the world's languages can be classified into as few as a dozen families, as shown in Figure 3. The question thus arises whether these larger families in turn share cognates, or whether they are "independent," with no visible connections. In the preceding discussion, we encountered several of the more crippling myths of historical linguistics, but we have arrived now at a more formidable linguistic taboo, the monogenesis of human language. Any mention of this topic was banned by the Société de Linguistique de Paris in 1866, and discussion of this question has been decidedly rare throughout the twentieth century. The reason of course is that if one accepts the myth that Indo-European is unrelated to any other family, then the question of monogenesis becomes moot. If the best-known family in the world cannot be shown to be related to any other family, then what would be the point of trying to proceed even beyond that notion? Thus in order to approach the question of monogenesis one must first shake loose from these all but universal myths. Several scholars have in fact done so, with Trombetti (1905) and Swadesh (1971) perhaps the two best-known supporters of monogenesis.

Less well known is the fact that the twentieth century's two great taxonomists, Sapir and Greenberg, also were inclined toward the hypothesis of monogenesis. In a letter to Kroeber in 1924 Sapir wrote, regarding Trombetti's theory of monogenesis, "There is much excellent material and good sense in Trombetti in spite of his being a frenzied monogenist. I am not so sure that his standpoint is less sound than the usual 'conservative' one" (quoted in Golla 1984: 420). In his book on Amerind, Greenberg defined the "ultimate goal" of genetic linguistics as "a comprehensive classification of what is very likely a single language family" (Greenberg 1987: 337).

1. Khoisan
2. Niger-Kordofanian:
 - a. Kordofanian
 - b. Niger-Congo
3. Nilo-Saharan
4. Australian
5. Indo-Pacific
6. Austric:
 - a. Austroasiatic
 - b. Miao-Yao
 - c. Daic
 - d. Austronesian
7. Dene-Caucasian:
 - a. Basque
 - b. (North) Caucasian
 - c. Burushaski
 - d. Nahali
 - e. Sino-Tibetan
 - f. Yeniseian
 - g. Na-Dene
8. Afro-Asiatic
9. Kartvelian
10. Dravidian
11. Eurasiatic:
 - a. Indo-European
 - b. Uralic-Yukaghir
 - c. Altaic
 - d. Korean-Japanese-Ainu
 - e. Gilyak
 - f. Chukchi-Kamchatkan
 - g. Eskimo-Aleut
12. Amerind

Figure 3. The World's Language Families

During the past decade the question of monogenesis has arisen once again, in the work of scholars who have eschewed the myth of Indo-European independence. The Russian Nostraticists, much maligned in this country, must be recognized as having taken important initial steps in proving monogenesis. By connecting Indo-European beyond any doubt with other families, their work broke down that dike against all long-range comparison and allowed

the question of monogenesis to be broached once again. Once Starostin and Nikolaev had postulated Dene-Caucasian, a logical next step was to compare this family with Nostratic, and in undertaking that comparison, Starostin (1989) has shown many convincing connections between the two groups. Ilja Pejros (1989) has in turn presented evidence linking Austric (Austroasiatic, Miao-Yao, Daic, Austronesian) with both Nostratic and Dene-Caucasian, and Vitaly Shevoroshkin (1989a) has noted similarities between Nostratic, Dene-Caucasian, Amerind, Australian, and Indo-Pacific. Moving equally far afield, Mark Kaiser and Shevoroshkin (1988) have suggested (as noted above) that Niger-Kordofanian and Nilo-Saharan should be added to Nostratic as well. Clearly, if we pause long enough to concatenate these various proposals we are not far from monogenesis itself.

Toward that end, and independently of the Russian work, John Bengtson and I, operating in the Greenbergian tradition of multilateral comparison, have proposed 27 etymologies connecting all of the world's language families (see Chapter 14), and these represent the merest fraction of what could be brought to bear on the question if all documented materials were duly assembled.

But all of these efforts—so intuitively reasonable and so methodologically sound—continue to be assailed by the conservative Indo-Europeanists and their followers. It has been fashionable among such critics of long-range comparison to claim that “unsystematic similarities [between language families] are *not* sufficient [to prove genetic affinity] because—as many people have pointed out—unsystematic similarities can be found for *any* pair, or set, of languages” (Thomason 1988). In a similar vein Ives Goddard (1979: 376) remarks “how easy it is to find lexical resemblances between groupings of large numbers of poorly recorded languages.” And James Matisoff (1990: 112) specifically criticizes the very robust TIK etymology, given in Chapter 14, as “wildly fantastical.”

What is characteristic of the claims that one can find *whatever* one looks for is that they are never supported by *evidence*. If the correlations between TIK and ‘finger,’ and PAL and ‘two,’ documented in Chapter 14, are simply artifacts of the analysis, as claimed by Thomason, Goddard, and Matisoff, rather than historically connected forms, as we maintain, then Thomason, Goddard, or Matisoff should offer alternative etymologies in which TIK is connected with ‘two,’ and PAL with ‘finger.’ Unless they do this, their claims of what one can do should not be taken seriously.

Militating against the position advocated by Greenberg's critics is the fact that if the TIK and PAL etymologies represent simply a clever sifting of the evidence, then one should be able to do the same thing with ‘three’ and higher numbers. In our survey of the world's linguistic literature, however,

Bengtson and I have found no other widespread numerals except 'one' and 'two.' There is, of course, a simple explanation for this observation. In many hunter-gatherer societies—which included all of mankind until about 12,000 years ago—numerals are limited to 'one,' 'two,' and 'many,' a trait preserved by Australian languages to the present day. Thus the fact that there are no widespread numerals higher than 'two' is not altogether unexpected, and their absence tends more to support our etymologies than to refute them.

THE BIOLOGICAL TAXONOMY OF MODERN HUMANS

Quite unexpectedly the debate on long-range comparison in linguistics was buffeted by a signal event of the late 1980's, the discovery by human geneticists that the biological classification of the human species closely parallels the linguistic classifications postulated by long-range comparison, not only for low-level families like Indo-European and Bantu, but even for families such as Niger-Kordofanian, Khoisan, Nilo-Saharan, Afro-Asiatic, Indo-Pacific, and Amerind, groupings often considered little more than "guesses" by Indo-Europeanists (Hopper 1989).

In 1986 Greenberg, together with the anthropologist Christy Turner and the biologist Stephen Zegura, pointed out a general congruence between Greenberg's linguistic classification of New World populations and the classifications of Turner, based on dental evidence, and Zegura, based on traditional genetic markers such as blood groups (Greenberg, Turner, and Zegura 1986; it is worth noting that the three had initially reached their conclusions quite independently, unaware of the work of the others). A similar finding, based on more substantial genetic evidence, was reported by L. L. Cavalli-Sforza and colleagues two years later (Cavalli-Sforza et al. 1988).

In 1987 Laurent Excoffier and his colleagues found, in a study of human genetics in sub-Saharan Africa, that "genetic differentiation clearly parallels the clustering of major linguistic families. . . . A rather clear distinction may . . . be made between Bantu and West Africans. As a matter of fact, they seem to form two overlapping but different clusters. . . . Concerning East Africans, the genetic data support quite clearly the main ethnic groupings defined by the linguistic approach. . . . Genetic results also completely concur with two other specific ethnic distinctions inside Africa, commonly known as Pygmies and Khoisan" (Excoffier et al. 1987: 151, 166–67). Excoffier and his colleagues concluded from their study that "most of the genetic peculiarities concerning present populations can be explained, when confronted with historical and linguistic sources, rather than being considered as examples of founder effects, random genetic drift, or frequency convergence. . . . Most of the time, genetic specificities correspond to linguistic differentiations"

(p. 185). In a study of the island of Sardinia, Alberto Piazza and colleagues (1992) compared the geographic distributions of human genes, linguistic traits (in the form of lexical items), and surnames. They found a high degree of correlation among all three, concluding that "languages and genes have a similar geographical distribution even at a microareal level."

In 1989 Guido Barbujani, Neal Oden, and Robert Sokal proposed a new method (which they called "wombling") of identifying biological boundaries, that is, "areas where the rates of change of biological variables across space are particularly high" (p. 376). Such boundaries may correspond either to "steep ecological gradients" (such as mountains or oceans) or "regions of limited admixture among demes" (such as that resulting from linguistic differences among populations). One of the examples of their application of this new technique concerns the Yanomami Indians of northern South America. Here, the authors found "that both at the level of variation among dialect groups as well as within such groups the regions of rapid genetic change agree with observable linguistic differences. These findings support conclusions from other studies on the relation of genetics and language" (Barbujani, Oden, and Sokal 1989: 386). This same technique has been applied to Europe by Barbujani and Sokal, who found a similarly high degree of correlation between genetic and linguistic distributions. They report that "of the 33 gene-frequency boundaries discovered . . . , 31 are coincident with linguistic boundaries marking contiguous regions of different language families, languages, or dialects. . . . The congruence of the discovered boundaries with linguistic boundaries is far too strong to be due to chance" (Barbujani and Sokal 1990: 1816-18).

Finally, Luca Cavalli-Sforza and colleagues published in 1988 a brief summary of their findings concerning the geographical distribution of human genes on a worldwide scale (see Figure 4). The complete results of this investigation are reported in a book now in press (Cavalli-Sforza, Piazza, and Menozzi 1994). Already the short article by Cavalli-Sforza and colleagues (1988) has stirred up a furor among those opposed to long-range comparison (O'Grady et al. 1989, Bateman et al. 1990, Hopper 1989), for the simple reason that these human geneticists have found biological clusters in the human population that are the same as or similar to the linguistic families identified by linguists. For the opponents of Greenberg's classification of the languages of the New World, the results of this study were dismaying indeed, for Cavalli-Sforza and colleagues found that, on the basis of human genetics, the populations of the Americas fall into the same three groups that Greenberg had posited a year earlier on the basis of language. Elsewhere in the biological phylogenetic tree can be found clusters corresponding to such linguistic groups as Australian, Indo-Pacific, and Austric.

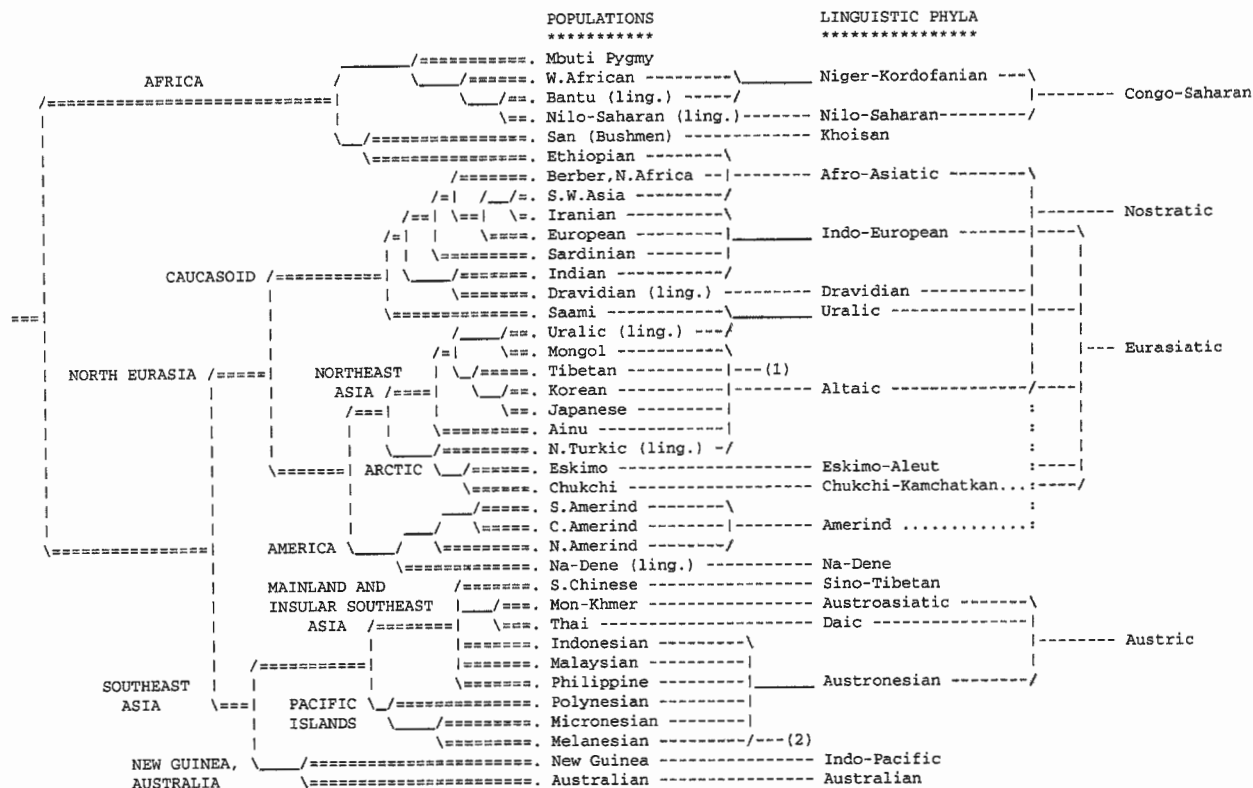


Figure 4. Comparison of the Genetic Tree with the Linguistic Phyla

Notes: (ling.) indicates populations pooled on the basis of linguistic classification. (1) Tibetans are associated genetically with the Northeast Asian cluster, but linguistically with the Sino-Tibetan phylum. (2) Melanesians speak, in part, Indo-Pacific languages. Genetic data are not currently available for Kartvelian or (North) Caucasian populations. (Adapted from [Cavalli-Sforza et al. 1988])

There are of course cases where genes and languages are not congruent. Black Americans speak American English, not a Black African language. But cases such as these, which for the most part have known historical causes, are the exception, not the rule. Cavalli-Sforza and colleagues conclude that although "gene flow and language replacement . . . may blur the genetic and the linguistic picture, . . . they do not obscure it entirely" (Cavalli-Sforza et al. 1990: 18).

Since Cavalli-Sforza and colleagues provide a comprehensive tree for the entire human family—something linguists have so far been unable to do—it is interesting to consider their higher-level findings for those areas where linguistic taxonomy has so far been unsuccessful. As one can see in Figure 4, the first branching in the human tree separates Black Africans, including Pygmies and the Khoisan, from the remainder of human populations. (Edgar Gregersen [1972] has proposed linguistic evidence connecting Niger-Kordofanian with Nilo-Saharan.) The Khoisan appear to be an admixture of roughly 50 percent Black African genes and 50 percent non-African genes, with the admixture having taken place more than 20,000 years ago. Ethiopians represent a much later admixture of the same two populations. Pygmies speak languages belonging to either Niger-Kordofanian or Nilo-Saharan, having presumably lost their original language(s).

The second branching in the genetic tree separates the populations of Southeast Asia and Oceania from the remainder; in linguistic terms this second branching includes Austric, Indo-Pacific, and Australian, with the last two groups closer to each other than either is to Austric. What remains after these first two branchings from the biological tree is a population that corresponds to Nostratic/Eurasatic + Amerind. (Linguistic evidence supporting such a group is given in Chapter 10.) Within this vast gene-based grouping, which stretches from North Africa, across northern Eurasia, and throughout the Americas, there are three basic clusters: (1) Afro-Asiatic, Indo-European, Dravidian, (2) Uralic, Altaic, Chukchi-Kamchatkan, and Eskimo-Aleut, and (3) Amerind and Na-Dene. Very likely, Na-Dene falls together with Amerind in that third group because the two have experienced substantial genetic (but not linguistic) admixture. Conspicuously absent from this biological tree are most of the Dene-Caucasian populations, for which genetic data are largely lacking.

CONCLUSIONS

I have argued here that the "conservative" view of genetic linguistic classification, which sees Indo-European as unrelated to any other family, the New World inhabited by dozens of different families with no genetic connections,

and no known genetic links existing between language families of the Old and New Worlds, is for the most part a collection of myths which, while still fervently believed by most linguists, are not borne out by the linguistic evidence. Rather, Indo-European is intimately connected with language families spread across northern Eurasia, and the New World contains just three stocks, each with a different Asian origin (Ruhlen 1990). Furthermore, evidence for monogenesis, far from being totally lacking as is widely contended, is in fact abundant. The real problem is not that there are "no nonuniversal markers of remote genetic relationship," but rather that there are so many it is difficult to determine the precise distribution of each. When all of the relevant materials are collected and analyzed, we may perhaps be able to construct a comprehensive linguistic tree to compare with that developed by human geneticists. At least that should be the goal of genetic linguistics.

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2

The Basis of Linguistic Classification

How do linguists classify languages into families, and these families in turn into higher-level families?*

In this regard, linguistics is no different from any other field: the comparative method begins with a listing of the entities to be classified, a listing that excludes entities obviously foreign to the list (e.g. birds are removed from a listing of fishes), but excludes none that are remotely possible members (tadpoles are listed, if only to be deleted in the first weeding), and then proceeds with a detailed comparison of the entities being classified. As Ernst Mayr (1988: 268) aptly put it, "From the earliest days, organisms were grouped into classes by their outward appearance, into grasses, birds, butterflies, snails, and others. Such grouping 'by inspection' is the expressly stated or unspoken starting point of virtually all systems of classification." What is compared in linguistics are words in different languages, or, more precisely, *lexical* items like 'hand, water, walk' and *grammatical* items like first person, past tense, and plural (see Greenberg 1957). It is the search for words that are similar in sound *and* meaning that forms the initial step in linguistic classification.

Once one has identified words in different languages that are similar in both sound and meaning, one must then determine the origin of these similarities, and here there are essentially three possibilities: convergence, borrowing, and common origin.

* This essay is a revised version of a talk given at the Cold Spring Harbor Centennial Symposium on Evolution: From Molecules to Culture (September 1990). The second half of the paper, similar in content to Chapter 1, is here omitted.

CONVERGENCE

In biology, *convergence* is more often than not motivated by the environment, or by other factors: it is not by accident that bats resemble birds, or dolphins, fish. But convergence in linguistics differs sharply from convergence in biology, for the simple reason that in linguistics convergence is almost always *unmotivated*: resemblance in such circumstances is almost always an accident. That linguistic convergence is almost always unmotivated is a direct consequence of the fundamental property of all human languages, namely, that language is based on the principle that a word is an *arbitrary* association of sound and meaning. For example, in English we use the sounds [hand] to represent a 'hand,' whereas other languages use entirely different sounds to represent the same meaning, for example Spanish [mano], Russian [ruka], and Japanese [te]. There is, thus, no reason to expect any particular meaning to be associated with any particular set of sounds. Accordingly, the probability that different languages would *independently* come to represent the meaning 'hand' by the sounds [mano] decreases rapidly as the number of languages possessing this word increases.

But how do we know that certain similarities are accidental, while others are historically related? In fact, we recognize accidental similarities only *after* we have arrived at a classification of the languages involved. Let us consider a specific example. The English word 'bad' is virtually identical in both sound and meaning with Persian *bad*. English 'bad,' however, is not found elsewhere in Germanic, the branch of Indo-European to which English belongs, and Persian *bad* is not found elsewhere in Indo-Iranian, the branch of Indo-European to which Persian belongs. Nor is this word found in any other branch of Indo-European. There is thus a formidable presumption that these two forms are not genetically related, despite their similarity in sound and meaning, and despite the fact that the languages in which they are found, English and Persian, are known to be related. What is important to note is that the accidental nature of this resemblance stands out *only against the background* of an already-defined Indo-European family.

To be sure, there are a few exceptions to the arbitrary nature of the sound/meaning relationship, the most obvious being *onomatopoeic* words such as 'buzz' and 'murmur.' Since such words constitute a very small percentage of a language's vocabulary, and can only be a source of dispute, they may be safely ignored by taxonomists.

A second alleged source of nonarbitrary sound/meaning relationships is nursery words like *mama* for 'mother' and *papa* for 'father.' It had long been noted that such forms were frequently shared by supposedly "unrelated" fam-

ilies when Roman Jakobson proposed, in 1960, to explain such similarities on the basis of the order of acquisition of sounds in child language, for [m] and [p] are among the first sounds produced by the child and hence could naturally come to represent the basic semantic meanings of 'mother' and 'father,' which for a child are obviously among its most important concepts. Though I would not deny that there may be an element of truth in Jakobson's proposal, I believe it was so readily accepted because it explained similarities which, for want of a better explanation, would have to have been attributed to common origin, thus undermining the supposed independence of many language families. Were *mama* and *papa* the only such widespread kinship terms, one might be able to accept Jakobson's explanation, but there are many others for which Jakobson's explanation seems far less viable, for example the kinship term based on the consonant [k], with forms such as *aka*, *kaka*, *kaki*, and the like, where the meaning is typically 'older male relative, uncle, older brother' (see Table 2 in Chapter 1). It is difficult to imagine that human society could be so finely organized that older brothers or uncles would show up at the baby's crib just when the child is learning velar consonants like [k]. Many other such examples (e.g. AJA 'mother' in Chapter 14) lead me to believe that the supposedly independent development of kinship terms like *mama* and *papa* in the world's languages has been greatly exaggerated; in most such cases we are probably dealing with historically connected forms rather than independent creations.

A final alleged source of nonarbitrary sound/meaning relationships involves pronouns, which are known to be among the most stable meanings in language. As with the kinship terms just discussed, the "problem" is that certain pronominal patterns connect families that have been declared unrelated by conservative taxonomists. An example is the vast Amerind family, covering most of North and all of South America, which is characterized by the pronominal pattern *n-* 'I' and *m-* 'you' (sg.). The prevalence of this pattern in the Americas—and its virtual absence elsewhere in the world—has been noted since early in this century and has required some explanation. Taxonomists like Alfredo Trombetti, Edward Sapir, and Joseph Greenberg, who were willing to weigh the evidence without preconception, have argued that this pattern can only be explained genetically. Franz Boas, however, attributed this pronominal pattern to "obscure psychological causes," and recent critics of Greenberg have invented equally fanciful explanations to explain away the problem of the Amerind pronouns.

An analogous situation has arisen in the Old World with regard to the Indo-European pronoun system. No description of the Indo-European family has ever failed to note the pronominal pattern *m-* 'I' and *t-* 'you' (sg.), as in English 'me, thee,' French *moi, toi*, Russian *menja, ty*, etc. The prob-

lem for Indo-Europeanists is that the same *m-/t-* pattern also characterizes other language families, such as Uralic, Altaic, Chukchi-Kamchatkan, and Eskimo-Aleut (see Table 2 in Chapter 1), and throughout this century Indo-Europeanists have pretended, for reasons having little to do with the actual evidence, that these families are unrelated to Indo-European. Trombetti (1905: 44) criticized this inconsistency of reasoning among Indo-Europeanists in the following terms: "It is clear that in and of itself the comparison of Finno-Ugric *me* 'I,' *te* 'you' with Indo-European *me-* and *te-* [with the same meaning] is worth just as much as any comparison one might make between the corresponding pronominal forms in the Indo-European languages. The only difference is that the common origin of the Indo-European languages is accepted, whereas the connection between Indo-European and Finno-Ugric is denied." As we have seen in the case of Amerind, it is the unwillingness to follow the comparative method to its logical conclusion—not the absence of evidence—that leads to the imaginary and willful isolation of Indo-European.

In summary, because convergence in linguistic taxonomy is almost always accidental, it constitutes only a very minor problem, and its manifestations are easily weeded out of the taxonomic process. Claims of convergence in pronoun systems are not supported by the worldwide evidence (see Chapter 12) and are to be rejected.

BORROWING

A second source of similarities in sound and meaning between words in two different languages is *borrowing*. Because almost all languages have borrowed some of their words from other languages, the possibility of borrowing must always be kept in mind. Two factors, however, make borrowing only a modest impediment to taxonomy. First, only certain kinds of words are particularly susceptible to borrowing, especially the words for previously unknown items like coffee, tobacco, and television, where the word is borrowed along with the item. Most of the basic vocabulary of a language is fairly resistant to borrowing; pronouns, body parts, and other fundamental vocabulary are seldom borrowed. Second, borrowing takes place only under special circumstances, almost always where the two languages in question are in intimate daily contact, as were English and French following the Norman invasion. For these reasons attempts to explain similarities among numerous languages over enormous geographical distances by means of borrowing are not to be taken seriously. Throughout this century such a diffusional approach to linguistic similarities, usually associated with Boas, has nevertheless opposed the genetic explanation of common origin preferred by Trombetti, Sapir, Swadesh, and Greenberg. Writing with regard to all of anthropology, not linguistics

alone, William Durham (1992: 334–35) has recently objected that “in all four main subfields of anthropology . . . descent has rarely been given its due, in part because of the demanding nature of the necessary data, comparative and/or diachronic, but also because of a prejudice widely held since Boas . . . that diffusion reliably ‘swamps’ all traces of phylogeny.” Perhaps the time has come for linguists to shed once and for all this long-held prejudice.

An example of how genuine borrowing may be detected would perhaps be instructive here. It was long thought that the Thai language was a member of the Sino-Tibetan family, which includes Chinese, Tibetan, Burmese, and other languages. But, in 1942, Paul Benedict showed that the Thai similarities to Sino-Tibetan were in fact borrowings from Chinese, and that Thai was to be classified in a different family, which Benedict called Kadai (= Daic). Two factors revealed the true affiliation of Thai: first, the Thai words resembling Sino-Tibetan tended to be words for items that are easily borrowed; and second (and more important), whenever Thai resembles Sino-Tibetan it always resembles Chinese, never one of the other branches. Were Thai really a branch of Sino-Tibetan, it should show some measure of independence within the family, manifesting its similarities *all around* the family, just as do all the branches of Indo-European, with respect to one another. Similarly, we could show that English has borrowed numerous words from French—and did not derive them independently from the same common origin—even if we did not have the historical records that demonstrate this to be the case.

In sum, borrowing can in almost all cases be detected, and therefore does not constitute a serious impediment to linguistic classification. Claims that masses of resemblances in the fundamental vocabulary of numerous languages separated by great distances are due to borrowing must be rejected.

COMMON ORIGIN

If, then, we find a mass of resemblances between different languages, resemblances that are not onomatopoeic in nature and do not appear to be borrowings, we must conclude that the similarities are the result of *common origin*, followed by descent with modification in the daughter languages. Similar words in different languages that are presumed to derive from a common source are called *cognates*, and the set of all related cognates for an individual word in different languages is known as the *etymology* for that word. Cognates thus play the same role in linguistics that homologies play in biology.

The process of linguistic classification, having at its heart the idea of common origin, may seem straightforward and uncontroversial, at least to biologists. Yet it is poorly understood within the linguistic community, where “reconstruction” and “sound correspondences” are usually deemed to play a

crucial role in discovering genetic relationships: "The ultimate proof of genetic relationship, and to many linguists' minds the only real proof, lies in a successful reconstruction of the ancestral forms from which the systematically corresponding cognates can be derived. . . . It is through the procedure of comparative reconstruction, then, that we can establish *language families*, such as those of Indo-European, Uralic, Dravidian, Altaic, Sino-Tibetan, Malayo-Polynesian, Bantu, Semitic, or Uto-Aztecan" (Hock 1986: 567). I believe it would be virtually impossible to find an evolutionary biologist who would express similar views with regard to biological taxonomy. That reconstruction is a *secondary level* of investigation in historical linguistics, upon which taxonomy does not depend, was eloquently explained by Greenberg (1957: 45) long ago: "Reconstruction of an original sound system has the status of an explanatory theory to account for *etymologies already strong on other grounds* [my italics]. Between the **vaida* of Bopp and the **γwoidxe* of Sturtevant lie more than a hundred years of intensive development of Indo-European phonological reconstruction. What has remained constant has been the validity of the etymologic relationship among Sanskrit *veda*, Greek *woida*, Gothic *wait*, all meaning 'I know,' and many other unshakable etymologies both of root and non-root morphemes *recognized at the outset* [my italics]."

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Khoisan Etymologies

The Khoisan languages, now restricted for the most part to southern Africa (from southern Angola to South Africa), are renowned for their use of clicks as ordinary consonants (see below). It is thought that the Khoisan family was formerly much more widespread in subequatorial Africa, but that it was largely replaced by the Bantu expansion in the past two and a half millennia. The Khoisan etymologies given below are intended to supplement the 116 lexical etymologies cited in Greenberg (1963), and for that reason they begin with No. 117.* In Greenberg's work, Khoisan etymologies were proposed only when they involved Hadza and/or Sandawe, the two most divergent members of the family, which are spoken in northern Tanzania, several thousand miles from the rest of the extant Khoisan languages. There are, in addition, a substantial number of apparent cognates between the three Khoisan subgroups that make up the rest of the family, namely, the Northern (Zhu), Central (Khoe), and Southern (!Kwi) branches. It is hoped that this larger etymological base will facilitate the comparison of the Khoisan family with the world's other language families, and that it will lead to further discovery of whatever genetic links there may be at that level. To my mind, the position of the Khoisan family in the classification of the world's languages is the most important unresolved problem in linguistic taxonomy. Although there is some evidence that Khoisan is related to other language families (see Chapter 14), the origin

* I would like to thank Christopher Ehret for constructive criticism of an earlier version of this study.

of the Khoisan clicks—and their relationship to ordinary consonants in other families—remains unresolved.

The etymologies suggested below are based on the work of Dorothea Bleek (1929), which gives data for a dozen Khoisan languages. Six belong to the Southern branch (/Kham [S1], //Ng-!e [S2], //Khegwi [S3], /'Auni [S4], Khakhea [S5], /Nu-//e [S6]); three to the Central branch (Tati [C1], Naron [C2], Nama [C3]); and three to the Northern branch (//Kh'au-//e [N1], !Kung [N2], !O-!Kung [N3]). Bleek designated each language with a code, so that language S1 was language number one of the southern branch of Khoisan, /Kham. I have added these codes after the language names in this chapter for two reasons. First, they show at a glance which of the three Khoisan branches are involved; and second, they separate the language name and the word in that language, which otherwise are difficult to distinguish visually.

Other etymologies, sometimes overlapping with those given below, have been proposed by other scholars. Of particular interest for those who wish to pursue the study of the Khoisan family in more detail are Bleek (1956), Ehret (1986), Fleming (1986), Köhler (1973–74, 1981), and Ladefoged and Traill (1984).

Bleek's system of transcribing clicks is followed here. Five basic varieties of clicks are distinguished: dental / (English *tsk tsk*), palatal ≠, alveolar ! (cork popping), lateral //, and bilabial ⊙ (kiss). Each click may have a variety of releases. The bilabial click may be followed by *g*, *k*, *kh*, *x* or *kx*, *h*, *ʔ*, or any vowel. Thus, //gwa is to be interpreted as a CV syllable with an initial labialized lateral click with voiced release followed by the vowel *a*. For the most part, clicks are restricted to word-initial position, though reduplication sometimes puts them in medial position. They never occur word-finally.

Long vowels are marked with $\bar{}$ above the vowel, e.g. \bar{a} . High tone is marked with an acute accent over the vowel, e.g. \acute{a} ; low tone, by a grave accent, e.g. \grave{e} . Mid tone is unmarked.

The proposed etymologies follow:

- 117 ACHE (v.) /Kham (S1) *taŋ*, //Ng-!e (S2) *taŋ*, Naron (C2) *tū*, Nama (C3) *tsū*.
- 118 AFTERNOON //Ng-!e (S2) *!kwiŋki*, //Kh'au-//e (N1) *!gwàkà*, Naron (C2) *!gwàkà*.
- 119 AFTERWARDS Khakhea (S5) *//nàa*, //Kh'au-//e (N1) *//na*, Naron (C2) *//naūa* 'later.'
- 120 ALSO /Kham (S1) *kəa*, !O-!Kung (N3) *(ne)kwe*, Tati (C1) *(če)koha*.
- 121 AND₁ /'Auni (S4) *e*, Khakhea (S5) *e*, //Kh'au-//e (N1) *e*, Naron (C2) *e*, Nama (C3) *e*.

- 122 AND₂ //Ng-!e (S2) /na, //Kh'au-//e (N1) na, !O-!Kung (N3) na, Naron (C2) na.
- 123 ANGRY, TO BE /Kham (S1) !k"wein ~ !kwǎ, //Kh'au-//e (N1) kwákwa, Tati (C1) kxai, Naron (C2) //kxwǎ.
- 124 ANKLE₁ Khakhea (S5) //guru, /Nu-//e (S6) !guru, Tati (C1) //golo.
- 125 ANKLE₂ /Kham (S1) !xǎm, //Kh'au-//e (N1) !kum (tsisi), !Kung (N2) //khum, !O-!Kung (N3) //ʔum.
- 126 ANT₁ /Nu-//e (S6) //kamate, !Kung (N2) //k'am (//kari), Naron (C2) !kwama-!kwama.
- 127 ANT₂ /Kham (S1) /xwēin/xwēin, //Ng-!e (S2) kwēn, Khakhea (S5) /gān, //Kh'au-//e (N1) /gǎi/gǎi, Naron (C2) k'aniša.
- 128 ANTEATER /'Auni (S4) //kǎm, Tati (C1) //xamee.
- 129 APRON //Ng-!e (S2) !kai, /'Auni (S4) !kai, /Nu-//e (S6) !gai, Naron (C2) !kái.
- 130 ARM /Kham (S1) //kū, Naron (C2) //k'ǎ, Nama (C3) //ǎb.
- 131 ARRIVE Khakhea (S5) //ka//ka ~ //kǎ alǎ, !O-!Kung (N3) //ka//kalǎ.
- 132 ARROWHEAD (IRON) //Kh'au-//e (N1) /kum /na, Naron (C2) /kum //na.
- 133 ARROWHEAD (BONE) //Kh'au-//e (N1) //kaba, Naron (C2) //gaba.
- 134 ASK Khakhea (S5) ti, //Kh'au-//e (N1) tē, !O-!Kung (N3) titi, Naron (C2) tī, Nama (C3) tē.
- 135 AT /'Auni (S4) ke, Khakhea (S5) ke ~ ka, //Kh'au-//e (N1) ke ~ ka, !Kung (N2) ká 'to,' !O-!Kung (N3) ká 'to,' Tati (C1) ka, Naron (C2) ka.
- 136 AWAY (TO GO AWAY) /Kham (S1) xū ~ ū, //Khegwi (S3) ū, //Kh'au-//e (N1) ú, !Kung (N2) ū, !O-!Kung (N3) ú, Naron (C2) xū, Nama (C3) xū ~ u.
- 137 AXE !O-!Kung (N3) bǎ, Tati (C1) boo, Naron (C2) bǎša.
- 138 BABOON₁ /Nu-//e (S6) /gǎri, //Kh'au-//e (N1) //gǎra, Naron (C2) /gǎraba.
- 139 BABOON₂ /'Auni (S4) /nera, Nama (C3) /nérab.
- 140 BACKBONE /Kham (S1) /kǎri, /'Auni (S4) !xuri, Naron (C2) !kǎri (/ǎ, Nama (C3) !huorǎb.
- 141 BAD //Kh'au-//e (N1) /k'au, !Kung (N2) /k'áo, Tati (C1) /kxau (ǎo).
- 142 BAG (= QUIVER) /'Auni (S4) !gǎru, /Nu-//e (S6) !kǎru, //Kh'au-//e (N1) !kuru, !Kung (N2) !kuru, Tati (C1) //gǎrus.
- 143 BAG (ROUND)₁ /Kham (S1) //hó, //Ng-!e (S2) //ho, //Khegwi (S3) //kǎ, /'Auni (S4) //hǎ, Nama (C3) //hǎb.

- 144 BAG (ROUND)₂ /Nu-//’e (S6) ≠gɔbe, Naron (C2) ≠gɔbeša.
- 145 BAKE //Kh’au-//’e (N1) šou, !Kung (N2) sau, !’O-!Kung (N3) šau ~ sau, Tati (C1) čoo.
- 146 BARK (v.) !Kung (N2) //gú, Nama (C3) //hú.
- 147 BARTER !Kung (N2) //ama, Nama (C3) //ama(-!kuni).
- 148 BE₁ /Kham (S1) e, //Ng-!’e (S2) e, //Khegiwi (S3) e, /’Auni (S4) e, Khakhea (S5) e, /Nu-//’e (S6) e, //Kh’au-//’e (N1) e, !Kung (N2) e, !’O-!Kung (N3) e, Tati (C1) je, Naron (C2) e.
- 149 BE₂ /Kham (S1) ā, //Ng-!’e (S2) ā, /’Auni (S4) ha, Khakhea (S5) ha, /Nu-//’e (S6) hà ~ a, //Kh’au-//’e (N1) ā, Naron (C2) hà ~ ā, Nama (C3) a.
- 150 BE, NOT TO //Kh’au-//’e (N1) kǎ, Naron (C2) kǎ, Nama (C3) gǎ.
- 151 BEAD /Nu-//’e (S6) !am, //Kh’au-//’e (N1) !ám, Nama (C3) !áms.
- 152 BEAD (OSTRICH EGGSHELL) //Kh’au-//’e (N1) !kɔrə, Naron (C2) !xɔriba ~ !kɔriba.
- 153 BEAR (GIVE BIRTH TO)₁ //Ng-!’e (S2) !naia, //Kh’au-//’e (N1) !nai.
- 154 BEAR (GIVE BIRTH TO)₂ !’O-!Kung (N3) //k’am, Naron (C2) //k’ám.
- 155 BEARD /Kham (S1) /num, /Nu-//’e (S6) /nūm, Naron (C2) /numša, Nama (C3) /nomgu.
- 156 BEAT //Kh’au-//’e (N1) //ám, Tati (C1) //gam, Naron (C2) //kám.
- 157 BECAUSE //Kh’au-//’e (N1) kama ~ ka, Tati (C1) ka, Naron (C2) kama.
- 158 BECOME //Kh’au-//’e (N1) ké, !’O-!Kung (N3) ki, Nama (C3) géi.
- 159 BEETLE₁ /Kham (S1) !nu!nursi, !Kung (N2) !no!nonohe.
- 160 BEETLE₂ //Kh’au-//’e (N1) /kama (ču), Tati (C1) !kam ~ //kama, Naron (C2) /kama, Nama (C3) (/kunutsi-)//koma.
- 161 BEHIND Khakhea (S5) /u, //Kh’au-//’e (N1) /ō.
- 162 BERRY /Nu-//’e (S6) !num, !Kung (N2) !núm.
- 163 BIND₁ /Kham (S1) ≠kám, !Kung (N2) ≠kám, !’O-!Kung (N3) ≠kám.
- 164 BIND₂ //Ng-!’e (S2) !kai, Khakhea (S5) //kai, Tati (C1) /kae.
- 165 BIND₃ //Kh’au-//’e (N1) ≠ú, Naron (C2) ≠ú.
- 166 BIRD /Kham (S1) k’aři, Khakhea (S5) /k’arika, /Nu-//’e (S6) ≠kari-ron, !Kung (N2) k’ani.
- 167 BLACK //Kh’au-//’e (N1) žǔ, !Kung (N2) ḡǔ, !’O-!Kung (N3) ḡǔ, Tati (C1) ḡunje.
- 168 BLACK MAN //Kh’au-//’e (N1) dama, Naron (C2) damaba, Nama (C3) (berin) dama ‘Kafir.’

- 169 BLUE (PALE) /Kham (S1) /*kainja*, !Kung (N2) /*kaŋ*, !'O-!Kung (N3) /*gã*.
- 170 BODY /'Auni (S4) *sorru*, Nama (C3) *sorob*.
- 171 BOIL /Kham (S1) /*kũ*, //Ng-!e (S2) /*kɔ̃*, /Nu-//e (S6) /*kũ*, //Kh'au-//e (N1) /*kũ*, !Kung (N2) /*kɔ̃*, !'O-!Kung (N3) /*kɔ̃nu*, Nama (C3) /*gũ*.
- 172 BONE /Kham (S1) *!kwa*, //Khegwi (S3) *!kã*, //Kh'au-//e (N1) *!kũ*, !'O-!Kung (N3) *!ʔũ*.
- 173 BOWELS /Kham (S1) /*kwĩŋ*/kwĩŋ, Nama (C3) /*guib*.
- 174 BOWSTRING !Kung (N2) //abã, Naron (C2) //abã.
- 175 BOY /Nu-//e (S6) //gãmama, //Kh'au-//e (N1) *!gõma*, !Kung (N2) //gãmã, !'O-!Kung (N3) //gãmã.
- 176 BRACELET /'Auni (S4) *!kãũ*, /Nu-//e (S6) *!kanate*, !'O-!Kung (N3) *!kanu*, Nama (C3) *!ganus*.
- 177 BRAINS /Kham (S1) *!kun*, !Kung (N2) ≠*xu*≠*xunu*, Nama (C3) ≠*kũs*.
- 178 BRANCH /Nu-//e (S6) //kan, !Kung (N2) //kãũ.
- 179 BREAK /Kham (S1) *!kwã* ~ *!gwa*, Khakhea (S5) *!kau*, //Kh'au-//e (N1) *!kwã*, Naron (C2) *kõa*, Nama (C3) //goa.
- 180 BREATHE //Ng-!e (S2) /*amsa*, Nama (C3) /*òm*.
- 181 BRIGHT /Kham (S1) ≠*xĩ*, Khakhea (S5) //kĩ, !Kung (N2) ≠*kĩ*.
- 182 BUCHU (an herb) /Kham (S1) *sã*, //Ng-!e (S2) *sãŋ*, /Nu-//e (S6) *tsẽ*, //Kh'au-//e (N1) *čã*, Naron (C2) *tsã*, Nama (C3) *sãb*.
- 183 BUILD //Kh'au-//e (N1) *!nũe*, Naron (C2) *!nũ*, Nama (C3) ≠*nuwi*.
- 184 BULB /Kham (S1) *!kaui*, //Kh'au-//e (N1) *!gau*.
- 185 BURN /Kham (S1) //ke ~ //ka, //Ng-!e (S2) //ke ~ //ka, //Khegwi (S3) *kha*, /'Auni (S4) *!xa(u)*, Khakhea (S5) //ko, /Nu-//e (S6) //kã, !Kung (N2) //ke, Tati (C1) *ŋ*//gãi.
- 186 BURY /Kham (S1) *!naũ*, //Kh'au-//e (N1) /*nàu*.
- 187 BUT₁ /Kham (S1) *ta*, !Kung (N2) *ta*, !'O-!Kung (N3) *ta*.
- 188 BUT₂ //Kh'au-//e (N1) *xabe*, Nama (C3) *xawe*.
- 189 BUTTERFLY /Kham (S1) *dadãbaši*, //Kh'au-//e (N1) *tãtaba*, !Kung (N2) *tãtaba*.
- 190 BUY₁ //Ng-!e (S2) //wã, !'O-!Kung (N3) //wã.
- 191 BUY₂ //Kh'au-//e (N1) //ama 'buy, sell,' !Kung (N2) //ama, Naron (C2) //ama, Nama (C3) //amã, //ama(-bẽ) 'sell.'
- 192 CALF /Nu-//e (S6) *tsau(-ma)*, !Kung (N2) *zãũ*, Nama (C3) *tsãub*.
- 193 CALL₁ //Khegwi (S3) //kài, Khakhea (S5) //kãĩ, /Nu-//e (S6) //kai, Naron (C2) //k'ẽ.
- 194 CALL₂ !'O-!Kung (N3) *!ʔau*, Nama (C3) *!hão*.

- 195 CANNOT /Kham (S1) $k''\acute{\alpha} \sim /k\acute{o}wa$, //Ng-!e (S2) $kw\tilde{a}$, //Khegwi (S3) $//kwe$, Khakhea (S5) $//kwa(ba)$, Nama (C3) $//oa$.
- 196 CAP₁ /Nu-//e (S6) $//gai \sim //kari$, //Kh'au-//e (N1) $//g\tilde{a} \sim //k\tilde{a}$.
- 197 CAP₂ Khakhea (S5) $t\acute{u}ru$, Tati (C1) $t'oro$.
- 198 CARRY (IN HAND) /Kham (S1) $!khei$, //Khegwi (S3) $//ke$, Khakhea (S5) $!ke$, //Kh'au-//e (N1) $//k\tilde{e}$, !Kung (N2) $!ke$, !O-!Kung (N3) $//k\tilde{e}$.
- 199 CARRY (IN THE KAROSS)₁ !Kung (N2) $!g\acute{a}mi$, Nama (C3) $!nami$.
- 200 CARRY (IN THE KAROSS)₂ !O-!Kung (N3) $//naia$, Naron (C2) $/n\acute{a}i$.
- 201 CARRY (IN A BAG) //Khegwi (S3) $//g\acute{o}a$, Naron (C2) $!gw\tilde{e}$, Nama (C3) $//gowe$.
- 202 CAT (RED) /Nu-//e (S6) $(/ka) \neq wi$, //Kh'au-//e (N1) $\neq w\tilde{i}$, Tati (C1) ue .
- 203 CAT (WILD) //Ng-!e (S2) $\odot mwa$, /'Auni (S4) $\odot p\acute{o}o$, Khakhea (S5) $\odot p\acute{o}$, /Nu-//e (S6) $\odot \tilde{o}$, //Kh'au-//e (N1) $/nw\tilde{o}$, !Kung (N2) $/nu\tilde{a}$, !O-!Kung (N3) $\neq no\epsilon$, Naron (C2) $/nwaba$, Nama (C3) $/h\acute{o}as$.
- 204 CATCH₁ /Kham (S1) $/k\tilde{e} \sim /ki$, Khakhea (S5) $/kai$, //Kh'au-//e (N1) $//kai$ 'seize,' !O-!Kung (N3) $//kei$, Naron (C2) $\neq k\acute{a}i$.
- 205 CATCH₂ Tati (C1) $xoo \sim kxoo$, Naron (C2) $!x\acute{o}o$, Nama (C3) $!kh\acute{o}$.
- 206 CHEEK BONES /Kham (S1) $!kweitn!kweitn$, //Ng-!e (S2) $\neq kwi\epsilon$, /'Auni (S4) $\neq u\tilde{i} \neq u\tilde{i}te$, Nama (C3) $\neq ui \neq uira$.
- 207 CHEST /Nu-//e (S6) $/gu$, !O-!Kung (N3) $(t'oa) /? \tilde{o}$, Tati (C1) $/huu$, Nama (C3) $/ub$.
- 208 CHILD /Kham (S1) $\odot pwa$ 'small,' //Khegwi (S3) $\odot pwo$, Khakhea (S5) $\odot pw\tilde{a}$, $\odot pw\tilde{a}ni$ 'children,' /Nu-//e (S6) $\odot pw\tilde{a}$, Tati (C1) $/gwa$, $/gware$ 'children,' Naron (C2) $/kwa$, $/kw\tilde{a}ne$ 'children,' Nama (C3) $/g\acute{o}ai$, $/g\acute{o}an$ 'children.'
- 209 CHIN //Kh'au-//e (N1) $!g\tilde{a}$, !Kung (N2) $//ga\eta$, !O-!Kung (N3) $!g\tilde{a}\eta$, Naron (C2) $!gani$, Nama (C3) $!g\tilde{a}ni$.
- 210 CHOP₁ /Kham (S1) $//k'au$, Tati (C1) $//kau$, Naron (C2) $//kau$.
- 211 CHOP₂ Khakhea (S5) $//k\tilde{u}$, //Kh'au-//e (N1) $//gum$, !Kung (N2) $//kum$, !O-!Kung (N3) $//k\tilde{u}m$.
- 212 CLAP HANDS //Kh'au-//e (N1) $//amka$, Naron (C2) $//\Lambda m$, Nama (C3) $//am$.
- 213 CLAY //Kh'au-//e (N1) $!k\tilde{a}$, !Kung (N2) $\neq ka$, !O-!Kung (N3) $/k\tilde{a}o$, Tati (C1) $/kh\tilde{a}$.
- 214 CLEAN (v.) /Kham (S1) $t'\acute{a}\acute{o}$, !O-!Kung (N3) $\acute{c}a$.
- 215 CLIMB //Kh'au-//e (N1) $/k'abe$, !Kung (N2) $!kaba$, Tati (C1) abo , Naron (C2) $!aba$, Nama (C3) $!a\tilde{w}a$.
- 216 CLOUD //Ng-!e (S2) $!gum$, !O-!Kung (N3) $!k\omega m$, Tati (C1) $\neq kom$.

- 217 COLD, TO BE₁ /Kham (S1) *k"òo*, !O-!Kung (N3) /*k'au* ~ *k'xau*,
Khakhea (S5) /*k"au* (n.), //Kh'au-//*'e* (N1) /*káũ*.
- 218 COLD, TO BE₂ //Kh'au-//*'e* (N1) ≠*xi*, Naron (C2) ≠*xei*, Nama
(C3) /*kèi*.
- 219 COME BACK Khakhea (S5) //k'λ*m ši*, //Kh'au-//*'e* (N1) //k*amtsí*.
- 220 COOK //Ng-!*e* (S2) /*xame*, //Kh'au-//*'e* (N1) ≠*xame*, Naron (C2)
//*xām*.
- 221 COVER (v.) /Kham (S1) *tum*, Khakhea (S5) *tum* 'to wrap up,'
Nama (C3) *tami* 'to wrap up.'
- 222 CRUNCH /Kham (S1) *k"au*_n, //Kh'au-//*'e* (N1) *k"õ*, Naron (C2)
xaunša kã.
- 223 CUCUMBER₁ //Kh'au-//*'e* (N1) *tõa*, Naron (C2) *tõa*.
- 224 CUCUMBER₂ //Ng-!*e* (S2) /*gɔrusi*, Naron (C2) /*gerisa*.
- 225 CUT /Kham (S1) /*kau*, Tati (C1) //k*au*, Naron (C2) //k*au*, Khakhea
(S5) /*kau* 'to cut off,' !O-!Kung (N3) //k*áu* 'to cut off.'
- 226 DANCE₁ Khakhea (S5) /*nλm*, //Kh'au-//*'e* (N1) /*nλm*, Naron (C2)
/nλ*m*.
- 227 DANCE₂ //Kh'au-//*'e* (N1) *čane*, !Kung (N2) *čxane*, Naron (C2)
čàne.
- 228 DANCE₃ //Kh'au-//*'e* (N1) *čxai*, !O-!Kung (N3) *čxē*, Naron (C2)
čxái.
- 229 DAWN //Kh'au-//*'e* (N1) /*ũká*, Naron (C2) /*ũka*.
- 230 DAY //Kh'au-//*'e* (N1) /*kλm*, !Kung (N2) /*kλm*, !O-!Kung (N3)
/kλ*m*, Tati (C1) /*kam*, Naron (C2) /*kamsa*.
- 231 DECAY //Kh'au-//*'e* (N1) *čou*, Tati (C1) *čoro*, Naron (C2) *č'õ* ~ *čũ*,
Nama (C3) *tsowá*.
- 232 DICE //Kh'au-//*'e* (N1) /*xũsi*, !Kung (N2) /*xu*, !O-!Kung (N3) /*xõ*,
Tati (C1) /*kxou*, Naron (C2) /*xũji*.
- 233 DIG /Nu-//*'e* (S6) *xaro*, Nama (C3) *xoro*.
- 234 DIG UP WATER Khakhea (S5) //y*bi*, !O-!Kung (N3) //gà*ba*, Naron
(C2) //gwə*be*.
- 235 DISH //Ng-!*e* (S2) /*kɔré*, /Nu-//*'e* (S6) /*lore*, Naron (C2) /*kɔre*, Nama
(C3) /*lores*.
- 236 DO /Kham (S1) *dī*, Khakhea (S5) *ti*, !Kung (N2) *di*, Nama (C3) *dì*.
- 237 DOWN, TO GET; TO FALL //Khegwi (S3) //ko*ā*, //Kh'au-//*'e* (N1)
//gwà*ā*, Naron (C2) //gwā*ā*, Nama (C3) //gǝ*ā*.
- 238 DREAM /Kham (S1) //k*habo*, Nama (C3) //k*awǝ*.
- 239 DRINK /Kham (S1) *k"wã* ~ *k"wě*, //Ng-!*e* (S2) *k"ã* ~ *k"ē*,
//Khegwi (S3) *k"ã* ~ *k"ē*, !Auni (S4) *k"āa*, Khakhea (S5) *k"ã*, /Nu-
//*'e* (S6) *k"ã*, !Kung (N2) *k"ã*, Naron (C2) *k"ã*.

- 240 DRIVE₁ Khakhea (S5) *!xai*, //Kh'au-//[']e (N1) *!xāĩ*, Naron (C2) *!kaiĩ* 'to drive on,' Nama (C3) *!hài-xu*.
- 241 DRIVE₂ !O-!Kung (N3) *!kxwe*, Naron (C2) *!xwē* 'to drive away.'
- 242 DRY /Kham (S1) //k[́]ɔ̃, //Ng-!e (S2) //k[́]ɔ̃, !Kung (N2) //kāo, Naron (C2) //kóě.
- 243 DUIKER BUCK (a kind of antelope) /Kham (S1) /*nau*, //Kh'au-//[']e (N1) /*óu*, !Kung (N2) /*óu*, !O-!Kung (N3) /*áu*, Naron (C2) /*nouša*.
- 244 DWELL₁ /'Auni (S4) //an 'hut,' Nama (C3) //ǎŋ 'to live.'
- 245 DWELL₂ /Kham (S1) //ɛn, //nei 'hut,' //neiŋ 'hut,' //Ng-!e (S2) //nei 'hut,' //Khegwi (S3) //neiŋ 'hut,' Khakhea (S5) //nai 'hut,' //hain 'to stay,' /Nu-//[']e (S6) //nei, Naron (C2) //ēĩ 'to dwell, stay.'
- 246 EARLY /Nu-//[']e (S6) *kɔbe* (*k"au*), !O-!Kung (N3) *kɔvə*.
- 247 EARRING /'Auni (S4) *!kāũnu*, !Kung (N2) *!kānuma*, !O-!Kung (N3) *!kā*.
- 248 EAT /Kham (S1) /*ũŋ* 'to eat marrow,' *!kũŋ* 'to eat fat,' Tati (C1) *≠ũ* 'to eat vegetable food,' Nama (C3) *≠ũ*.
- 249 EGG Naron (C2) *≠ybi*, //Kh'au-//[']e (N1) *≠ybi* 'eggshell.'
- 250 ELAND (a kind of antelope) Khakhea (S5) *dũ*, Tati (C1) *du*, Naron (C2) *dũba*.
- 251 ELBOW /Nu-//[']e (S6) *≠guni*, //Kh'au-//[']e (N1) *≠ɔni*, !Kung (N2) *≠kwɔni*, !O-!Kung (N3) *≠kuni*, Tati (C1) *čuni*, Naron (C2) *≠huni*.
- 252 EMBERS //Kh'au-//[']e (N1) *dà !nūsi* (literally, "fire stones"), Naron (C2) *!numsa*.
- 253 ENTER /Kham (S1) /*ē* ~ /*e/ē*, //Ng-!e (S2) /*ē*, !Kung (N2) /*gē*.
- 254 EVENING Khakhea (S5) *!gwā*, //Kh'au-//[']e (N1) *!gwà*, Naron (C2) *!gwàká*.
- 255 EYE //Khegwi (S3) *tsāĩ*, *tsāĩn* 'eyes,' Tati (C1) *čai*.
- 256 FACE /Kham (S1) *xũ*, //Ng-!e (S2) *xũ*, //Khegwi (S3) *xũ*, /'Auni (S4) /*ka*, //Kh'au-//[']e (N1) /*khó*, !Kung (N2) /*khó*, !O-!Kung (N3) /*kō*, Tati (C1) *≠kxu*.
- 257 FAR Khakhea (S5) /*ǎ*, //Kh'au-//[']e (N1) *!xǎ* ~ /*kǎ*, !Kung (N2) *≠xǎ*, !O-!Kung (N3) *≠xa*.
- 258 FASTEN //Kh'au-//[']e (N1) *!kam*, Naron (C2) *!ama*.
- 259 FAT (n.) //Kh'au-//[']e (N1) /*nĩ*, !Kung (N2) //nwĩ, !O-!Kung (N3) /*nĩ* ~ *nĩ*, Naron (C2) //nwĩba, Nama (C3) //nuib.
- 260 FATHER₁ /Kham (S1) *bobo*, //Khegwi (S3) *bāba*, //Kh'au-//[']e (N1) *ba*, !Kung (N2) *ba*, !O-!Kung (N3) *ba*, *pá* (vocative), Tati (C1) *bae*, Naron (C2) *auga*, *aba* (vocative).
- 261 FATHER₂ /Kham (S1) *tata*, /Nu-//[']e (S6) *tata*, Nama (C3) *dadāb*.
- 262 FEEL₁ /Kham (S1) *tutũm* 'to feel with the feet,' !Kung (N2) (/ke) *tu* 'to feel about,' Tati (C1) *čom*.

- 263 FEEL₂ /Kham (S1) *tā* ~ *ta*, //Ng-!e (S2) *taŋ*, !Kung (N2) *saā*, Nama (C3) *tsā*.
- 264 FEMALE //Ng-!e (S2) /*gaiki*, Khakhea (S5) // *gai*, /Nu-//e (S6) // *gaite*, Tati (C1) // *gai*, Naron (C2) // *gai*.
- 265 FETCH /Nu-//e (S6) *šō*, !Kung (N2) *šá*, Naron (C2) *šē* ~ *sē*.
- 266 FETCH WATER Khakhea (S5) *hōle*, /Nu-//e (S6) *hare*, //Kh'au-//e (N1) *hāre*, Naron (C2) *hòre*, Nama (C3) *haré*.
- 267 FETCH WOOD //Kh'au-//e (N1) *gū*, Naron (C2) *gū*.
- 268 FEVER //Kh'au-//e (N1) *!gī*, Naron (C2) *!gī(ša)*.
- 269 FIGHT (v.) /Kham (S1) /*ā*, //Kh'au-//e (N1) // *ā*, !Kung (N2) // *ā*, Tati (C1) // *gaa*, Naron (C2) // *ā*, Nama (C3) // *āē*.
- 270 FILL₁ /Nu-//e (S6) *!gum*, !Kung (N2) *!kum*.
- 271 FILL₂ //Kh'au-//e (N1) /*ū*, !O-!Kung (N3) /*o*, Nama (C3) /*òà/òà*.
- 272 FIND //Kh'au-//e (N1) *hō*, !Kung (N2) *ō*, Naron (C2) *hō*, Nama (C3) *hō*.
- 273 FINGER/TOE /Nu-//e (S6) /*kōnu*, //Kh'au-//e (N1) (*!gou*)/*kōne*, Naron (C2) (*čou*) /*khōnu*, Nama (C3) /*kunub*.
- 274 FINISH /Nu-//e (S6) *toā*, //Kh'au-//e (N1) *tòà*, !Kung (N2) *toá*, !O-!Kung (N3) *tōa*, Nama (C3) *tōa*.
- 275 FIVE₁ /Nu-//e (S6) *kōro*, Naron (C2) *kōro*, Nama (C3) *goro*.
- 276 FIVE₂ !Kung (N2) *čū*, Tati (C1) (*e*)*čowe* (a hand), Naron (C2) *čou*.
- 277 FLOW //Kh'au-//e (N1) *čū*, Tati (C1) *joo*.
- 278 FLUTTER //Kh'au-//e (N1) // *gani*, Nama (C3) // *kana*.
- 279 FLY₁ (n.) Khakhea (S5) *žōī* (v.), *žū žwē* 'to fly away,' //Kh'au-//e (N1) *žwažwa*, !Kung (N2) *žōāžōā*, !O-!Kung (N3) *dzwādzwā*.
- 280 FLY₂ (n.) /'Auni (S4) *≠gam*, !Kung (N2) // *gama* (v.).
- 281 FOLLOW //Kh'au-//e (N1) // *xam*, !Kung (N2) // *xam*, !O-!Kung (N3) // *xam*, Tati (C1) *kamaa*, Nama (C3) /*hamā*.
- 282 FOOT //Khegwi (S3) /*k'e*, /'Auni (S4) *!k'ai*, //Kh'au-//e (N1) /*kē*, !Kung (N2) /*k'i*, !O-!Kung (N3) /*k'ε*.
- 283 FOR₁ /Kham (S1) *tā*, !Kung (N2) *ta*.
- 284 FOR₂ //Kh'au-//e (N1) *kama*, Naron (C2) *kama*.
- 285 FORBID //Kh'au-//e (N1) *!khau*, Nama (C3) *!khāi*.
- 286 FOREHEAD /Kham (S1) *xū*, //Kh'au-//e (N1) /*khó*, !Kung (N2) /*khó*, !O-!Kung (N3) /*kō*, Tati (C1) *≠kxuu*.
- 287 FORGET /Kham (S1) /*urūwá*, !Kung (N2) /*uru*, Tati (C1) *ŋ/xuru*, Naron (C2) /*uru*, Nama (C3) /*uru*.
- 288 FOUR Khakhea (S5) // *ke*, //Kh'au-//e (N1) // *kéi*, Naron (C2) // *xē*.
- 289 FRIEND /Kham (S1) /*kēŋ*, Naron (C2) *!kēn*.
- 290 FROM Khakhea (S5) *ke*, //Kh'au-//e (N1) *kwé*, !Kung (N2) *kwe*, Naron (C2) *kwé*.

- 291 FULL /Kham (S1) /*lkaun*-a, //Ng-!e (S2) /*lxaŋ*, //Kh'au-//e (N1) /*lka*u.
- 292 GATHER /Kham (S1) /*k'wā*, !O-!Kung (N3) /*ʔhā*.
- 293 GEMSBOK₁ (a kind of antelope) /Kham (S1) /*lkwī*, //Kh'au-//e (N1) /*lɡwē*.
- 294 GEMSBOK₂ /'Auni (S4) /*xa*, Naron (C2) /*xɔba*.
- 295 GET DOWN /Kham (S1) //kóě, Tati (C1) //kwaho.
- 296 GHOST //Kh'au-//e (N1) //gāūa, !Kung (N2) //gāūa, !O-!Kung (N3) //gāūa, Naron (C2) //gāūa, Nama (C3) //gāūa 'evil spirit.'
- 297 GIRAFFE Khakhea (S5) /*xuä*, //Kh'au-//e (N1) ≠*koä*, !Kung (N2) ≠*koä*.
- 298 GIVE₁ //Kh'au-//e (N1) *aū*, Naron (C2) *aū*.
- 299 GIVE₂ /Kham (S1) /*kā* ~ *ā*, //Ng-!e (S2) *ā*, Khakhea (S5) /*a*, //Kh'au-//e (N1) /*ā*, !Kung (N2) /*ká* ~ /*ǎ* ~ *ā*, !O-!Kung (N3) /*kā*.
- 300 GNAW Khakhea (S5) /*kɔa*, //Kh'au-//e (N1) *kai*, Naron (C2) //kai.
- 301 GO /Kham (S1) /*ū* 'to go out,' /'Auni (S4) /*kuŋ*, /Nu-//e (S6) //kū 'to go away,' //Kh'au-//e (N1) /*kū*, !Kung (N2) /*kú*, Naron (C2) /*kū*, Nama (C3) /*gūŋ*.
- 302 GOOD //Ng-!e (S2) /*lhāija*, //Kh'au-//e (N1) /*kāi*, !Kung (N2) /*kaiä*, Naron (C2) /*kāi*, Nama (C3) /*gāi*.
- 303 GRANDCHILD /Kham (S1) ⊙*pwa*⊙*pwaidi*, Tati (C1) /*gwa*/*gwa*.
- 304 GRANDFATHER //Kh'au-//e (N1) *mama* 'grandfather, grandmother,' Tati (C1) *mae* 'grandmother,' Naron (C2) *mamai* 'grandfather, grandson.'
- 305 GRASS //Khegwi (S3) /*gā*, /Nu-//e (S6) //gā, Naron (C2) /*gāša*, Nama (C3) /*gāb*.
- 306 GREEN/YELLOW /Kham (S1) /*kainja*, //Kh'au-//e (N1) /*kāū*, !Kung (N2) /*kaŋ*, !O-!Kung (N3) /*kāŋ*.
- 307 GROUND Khakhea (S5) //khūm, /Nu-//e (S6) ≠*gūm*, Naron (C2) *xumša*, Nama (C3) *xūb*.
- 308 GROW /Kham (S1) /*kí*, //Kh'au-//e (N1) /*keia*, Naron (C2) /*keia*, Nama (C3) /*gei*.
- 309 HAIR /Kham (S1) /*ku*, //Ng-!e (S2) /*ku*, //Khegwi (S3) /*ku*, /'Auni (S4) /*ko*, Khakhea (S5) /*kwāni*, /Nu-//e (S6) /*kuunte*, Tati (C1) /*hoo*, Naron (C2) /*ū*, Nama (C3) /*ū*.
- 310 HARE /Kham (S1) /*lnāū*, //Ng-!e (S2) /*lnau*, //Kh'au-//e (N1) /*lnəu*, !O-!Kung (N3) /*lnau*.
- 311 HAVE /Kham (S1) /*ki*, //Ng-!e (S2) /*ki* ~ /*ka*, //Khegwi (S3) /*ge*, /'Auni (S4) /*kēi*, Khakhea (S5) //ke, !Kung (N2) //ke, !O-!Kung (N3) //kai.

- 312 HE/SHE/IT /Kham (S1) *ha*, //Ng-!e (S2) *ha*, //Khegwi (S3) *ha*, Khakhea (S5) *ha*, //Kh'au-//e (N1) *ha*, !Kung (N2) *ha*, !O-!Kung (N3) *ha*.
- 313 HEAD /Kham (S1) /*nā*, //Ng-!e (S2) /*nā*, //Khegwi (S3) /*nā*, /'Auni (S4) /*nā*, Khakhea (S5) /*nā*, /Nu-//e (S6) /*na* ~ /*ni*, //Kh'au-//e (N1) /*né* ~ /*ní*, !Kung (N2) /*ne*, !O-!Kung (N3) /*né*.
- 314 HEAR /Kham (S1) *tum*, Tati (C1) *čom*.
- 315 HEART /'Auni (S4) ≠ *kʔa*, //Kh'au-//e (N1) *!kā*, !Kung (N2) *!k'á*, !O-!Kung (N3) *k'a*, Naron (C2) *!gausa*, Nama (C3) ≠ *gaob*.
- 316 HEEL /Kham (S1) *!kú*, //Ng-!e (S2) *!kɔra*, !Kung (N2) (/ke) *!gōa*, !O-!Kung (N3) *!gō*.
- 317 HEMP //Kh'au-//e (N1) /*hī*, Nama (C3) /*hī*.
- 318 HERE₁ //Ng-!e (S2) *kí*, //Khegwi (S3) /*ki*, Khakhea (S5) /*ki*, Nama (C3) (*ne*) /*i*.
- 319 HERE₂ /Kham (S1) *tí*, /'Auni (S4) *ti*, Khakhea (S5) *ši*, /Nu-//e (S6) *tí*, //Kh'au-//e (N1) *tsíke* ~ *čī*.
- 320 HIDE /Kham (S1) *!náū*, Nama (C3) *!nava*.
- 321 HILL Khakhea (S5) *!gɔm*, Nama (C3) *!nomis*.
- 322 HOLD //Khegwi (S3) //ke, //Kh'au-//e (N1) //káí, !Kung (N2) //ke, !O-!Kung (N3) //ke ~ //kai, Tati (C1) //ka.
- 323 HOLD UP !Kung (N2) //kám, Nama (C3) //kam.
- 324 HOLE₁ /Kham (S1) *tū*, //Ng-!e (S2) *tū*, Khakhea (S5) *jū*, /Nu-//e (S6) *žɔe*, //Kh'au-//e (N1) *ču*.
- 325 HOLE₂ /Kham (S1) *!kɔro* 'to be hollow,' /huru 'hole,' /ūru 'anus,' /'Auni (S4) *!kuru* 'quiver,' //Kh'au-//e (N1) *!kuru* ~ *!koro* 'hole, grave,' !O-!Kung (N3) *kɔlo* 'hollow,' Tati (C1) *koro* 'hole in tree,' (*čui*) *kxolo* 'nostrils' (literally, "nose hole").
- 326 HOT, TO BE /'Auni (S4) /kám, Nama (C3) /gam.
- 327 HUNGRY, TO BE Khakhea (S5) //k'aba(//kau), //Kh'au-//e (N1) //kabe, Naron (C2) //kɔba 'hunger, to be hungry,' Tati (C1) //kaba 'hunger.'
- 328 HUNT /'Auni (S4) ≠ *kai* (*ho*), Khakhea (S5) //káī, //Kh'au-//e (N1) *!kàí* ~ *!gàí*, Naron (C2) *kòí* ~ *!xāí*, Nama (C3) *!hài*.
- 329 HURT /Kham (S1) //káí, Khakhea (S5) //kōī, //Kh'au-//e (N1) //káū, !Kung (N2) //gáni-//gáni.
- 330 HUSBAND /Kham (S1) /ha, //Khegwi (S3) /ha, /Nu-//e (S6) /ha, !O-!Kung (N3) /gā.
- 331 HUT //Kh'au-//e (N1) *čū*, !Kung (N2) *ču*, !O-!Kung (N3) *ču* (*!ní*), Tati (C1) *jū*.
- 332 HYENA (SPOTTED) //Kh'au-//e (N1) *!káu*, !O-!Kung (N3) *!k"āū*, Naron (C2) *!gau*.

- 333 I₁ /Kham (S1) $\eta \sim n$, //Ng-!e (S2) $\eta \sim n \sim ni$, //Khegwi (S3) $\eta \sim a\eta$, /'Auni (S4) η , Khakhea (S5) $\eta \sim na$, /Nu-//e (S6) $\eta \sim na$, !Kung (N2) $\eta \sim na$.
- 334 I₂ /Kham (S1) m , //Ng-!e (S2) m , //Khegwi (S3) am , Khakhea (S5) m , /Nu-//e (S6) m , //Kh'au-//e (N1) $m \sim mi$, !Kung (N2) $m \sim mi$, !'O-!Kung (N3) $mi \sim ma$.
- 335 ILL, TO BE //Khegwi (S3) /a, Khakhea (S5) //kai, //Kh'au-//e (N1) /kei, Nama (C3) /ai.
- 336 IN /Kham (S1) /ē, //Ng-!e (S2) /ē, //Khegwi (S3) /ē, /Nu-//e (S6) /ē, !'O-!Kung (N3) /ē.
- 337 INSIDE /Kham (S1) //kaīe, //Ng-!e (S2) //kaīe, //Khegwi (S3) //xē, !'O-!Kung (N3) //gāi.
- 338 INTERROGATIVE PARTICLE₁ /Kham (S1) xa, //Kh'au-//e (N1) xa.
- 339 INTERROGATIVE PARTICLE₂ /Nu-//e (S6) ba, //Kh'au-//e (N1) ba.
- 340 INTERROGATIVE PARTICLE₃ /Kham (S1) dε, //Ng-!e (S2) djε, //Kh'au-//e (N1) dε, !Kung (N2) de, Naron (C2) dī.
- 341 JUMP /Kham (S1) ≠hau ~ ≠kōú, //Ng-!e (S2) !kau, //Kh'au-//e (N1) !hāū.
- 342 KAROSS (SMALL) /Kham (S1) !kʔousi, //Ng-!e (S2) !ko, //Kh'au-//e (N1) !gū, !Kung (N2) !kū, !'O-!Kung (N3) !gō, Naron (C2) !gūša, Nama (C3) !gūs.
- 343 KIDNEY //Kh'au-//e (N1) !nē, Naron (C2) !nēi, Nama (C3) !néis.
- 344 KILL₁ /Kham (S1) /ā, //Ng-!e (S2) /ā, Khakhea (S5) //ā, Nama (C3) ≠ā.
- 345 KILL₂ //Kh'au-//e (N1) !kū, !Kung (N2) !kū ~ !kuŋ, !'O-!Kung (N3) !k5, Naron (C2) /kū.
- 346 KNOCK //Kh'au-//e (N1) ≠k'Λm, !'O-!Kung (N3) //kÁ, Tati (C1) //kam, Naron (C2) //kama.
- 347 KNOW /Kham (S1) ≠en ~ ≠ená, //Kh'au-//e (N1) ≠ā ~ ≠kā, Tati (C1) aa ~ an, Naron (C2) ≠āna, Nama (C3) ≠an.
- 348 KNOW, NOT TO /Kham (S1) /uru, //Kh'au-//e (N1) /ū, !Kung (N2) /uru, Nama (C3) /uru.
- 349 KORHAAN BRANDKOP (a kind of rooster) /Nu-//e (S6) //āba, Khakhea (S5) //gaba 'korhaan vaal,' Naron (C2) //gàba 'korhaan vaal.'
- 350 KUDU (an African hooved mammal) //Ng-!e (S2) k'āi, /'Auni (S4) xai, /Nu-//e (S6) xain, Naron (C2) xeiba, Nama (C3) xaib.
- 351 LANGUAGE //Kh'au-//e (N1) k'wi, !Kung (N2) ok'wi, !'O-!Kung (N3) ok'wí, Tati (C1) kwio, Naron (C2) k'wīša.

- 352 LARGE //Ng-!e (S2) *!na*, //Kh'au-//e (N1) *!naa*, !O-!Kung (N3) *//nāa*.
- 353 LAUGH₁ /Kham (S1) *k"weĩ*, //Ng-!e (S2) *k'āĩ-ā*, Nama (C3) *āĩ*.
- 354 LAUGH₂ Khakhea (S5) *//kēĩ*, //kxàĩ 'to laugh at,' Naron (C2) *//kxe* 'to laugh at.'
- 355 LAY EGGS /Kham (S1) *//kain*, /Nu-//e (S6) *//gāĩ*, !O-!Kung (N3) *ka*.
- 356 LEAD (v.) /Kham (S1) *//gwēītən*, Khakhea (S5) */kwē*, Nama (C3) *≠gui*.
- 357 LEAF /Nu-//e (S6) */nabu*, //Kh'au-//e (N1) */nɔbu*, !Kung (N2) */nɔbu*, !O-!Kung (N3) *//gɔba*.
- 358 LEAVE₁ /Kham (S1) *(xū) tu* 'to leave off,' *toā* 'to leave for,' //Kh'au-//e (N1) *toa* 'to leave off,' Naron (C2) *tōε* 'to leave off,' Nama (C3) *toa* 'to leave off.'
- 359 LEAVE₂ /Kham (S1) *xū ũi*, *xū u* 'to leave for,' !Kung (N2) *xun*, Tati (C1) *huu*, Naron (C2) *xū*, Nama (C3) *xú*.
- 360 LEAVE₃ //Kh'au-//e (N1) *//nā*, !Kung (N2) *//nā*, Nama (C3) *//ná*.
- 361 LEG //Ng-!e (S2) *!kōgən*, !Kung (N2) *!kō*, !O-!Kung (N3) *!kō*.
- 362 LET₁ /Kham (S1) *ā*, Khakhea (S5) *a*, Nama (C3) *a*.
- 363 LET₂ /Kham (S1) */na*, //Kh'au-//e (N1) *//na*, !Kung (N2) */na*, !O-!Kung (N3) *//na*, Nama (C3) *//nà*.
- 364 LIE (n.) !Kung (N2) *tjúa*, Naron (C2) *čušā*.
- 365 LIGHT₁ (NOT HEAVY) !Kung (N2) *šwi*, Naron (C2) *ču*, Nama (C3) *süi*.
- 366 LIGHT₂ (BRIGHT) /Kham (S1) *≠xĩ*, //Kh'au-//e (N1) *≠i*.
- 367 LIGHT₃ (BRIGHT) //Ng-!e (S2) *!kā*, !O-!Kung (N3) *!gā*, Nama (C3) *!nā ~ !ga*.
- 368 LIGHTNING !O-!Kung (N3) *//gāũa tala*, Tati (C1) *//kxau*.
- 369 LIKE, TO BE₁ /Kham (S1) *//ke//kē*, !Kung (N2) *//ke//ke*.
- 370 LIKE, TO BE₂ /Kham (S1) *k'waŋ*, !O-!Kung (N3) *kwā*.
- 371 LIMP !O-!Kung (N3) *//kēa*, Naron (C2) *//k'ēa*.
- 372 LION /Nu-//e (S6) *xam*, //Kh'au-//e (N1) *xam*, !Kung (N2) *xam*, Tati (C1) *kxam ~ hōm*, Naron (C2) *xamba*, Nama (C3) *xami*.
- 373 LIP Khakhea (S5) */kōši*, /Nu-//e (S6) */gōši* (*!nɔm*), //Kh'au-//e (N1) *tsĩ /ō*, !Kung (N2) *si /ō*, !O-!Kung (N3) *tsĩ /nɔ*.
- 374 LISTEN !Kung (N2) *!kā*, Nama (C3) *!gā*.
- 375 LIVER //Kh'au-//e (N1) *čĩ*, !Kung (N2) *čij*, !O-!Kung (N3) *čĩ*, Tati (C1) *če*.
- 376 LOCUST /Kham (S1) *!hau*, //Kh'au-//e (N1) *!hau*, !Kung (N2) *!gāũ*.

- 377 LOINCLOTH /Kham (S1) //kɔro, //Kh'au-//'e (N1) //go, !Kung (N2) //ko, !'O-!Kung (N3) //gò.
- 378 LOVE /Kham (S1) /kòŋ-a, //Ng-!e (S2) //aŋ, Nama (C3) //ǎ.
- 379 LYNX //Kh'au-//'e (N1) !gàu, Naron (C2) !kǎūba.
- 380 MAKE₁ //Kh'au-//'e (N1) kuru, !Kung (N2) kuru, Naron (C2) kúru, Nama (C3) guru.
- 381 MAKE₂ /Kham (S1) *taba*, Khakhea (S5) *tabi* 'work,' !Kung (N2) *taba*.
- 382 MAKE₃ /Kham (S1) *di*, !'Auni (S4) *ti*, Nama (C3) *dì*.
- 383 MALE₁ (adj.) //Ng-!e (S2) !gō, //Khegwi (S3) //k5, /Nu-//'e (S6) //g5, //Kh'au-//'e (N1) //g5, !Kung (N2) //g5, //go (n.), !'O-!Kung (N3) //g5, //g5 (n.), Tati (C1) //kxowe.
- 384 MALE₂ (adj.) //Kh'au-//'e (N1) k'au (n.), !'O-!Kung (N3) k'au (n.), Naron (C2) k'au ~ //k'au.
- 385 MAN (MALE) /Kham (S1) !ku 'person,' !Kung (N2) !kū, !'O-!Kung (N3) !kū, Tati (C1) čo.
- 386 MAN (PERSON) Khakhea (S5) *tu* 'person,' /Nu-//'e (S6) *tu* ~ *du* 'person,' //Kh'au-//'e (N1) žū, !Kung (N2) jū ~ žū, !'O-!Kung (N3) jū ~ žū.
- 387 MANE /Kham (S1) /keri-(ta /kukən), Khakhea (S5) //kari, !Kung (N2) /kere ~ /kare, Tati (C1) *tsere*, Naron (C2) /gare-ba.
- 388 MANY //Kh'au-//'e (N1) ≠khí, !Kung (N2) ≠khí, !'O-!Kung (N3) ≠khí, Naron (C2) kéi, Nama (C3) ≠gǎi.
- 389 MASTER (n.) /Kham (S1) /hū, //Ng-!e (S2) /hu, /Nu-//'e (S6) /hū(!kwā), //Kh'au-//'e (N1) /hū, Naron (C2) /hūba.
- 390 MAT (GRASS) //Kh'au-//'e (N1) /xari, !Kung (N2) /xeru, Naron (C2) /xɔruŋ 'sieve,' Nama (C3) /karub.
- 391 MEDICINE /Kham (S1) šo /óä, !'O-!Kung (N3) č5, Naron (C2) č5, Nama (C3) sò /ōab.
- 392 MEDICINE MAN /Kham (S1) !gei-tən, //Kh'au-//'e (N1) !gei-xa, Nama (C3) !géi-aob.
- 393 MEET //Kh'au-//'e (N1) //kaiä, Tati (C1) !kxai, Naron (C2) //kái, Nama (C3) //ai.
- 394 MELON /Nu-//'e (S6) tɒm, //Kh'au-//'e (N1) tàma, Tati (C1) *tsama*.
- 395 MIDDAY /Kham (S1) //kwǎ, //Kh'au-//'e (N1) //gǎreká.
- 396 MILK (v.) /Nu-//'e (S6) /au, //Kh'au-//'e (N1) /k'au, !Kung (N2) /k'áo, Naron (C2) /k'au, Nama (C3) /ào.
- 397 MILKY WAY !Kung (N2) /gu ≠ɔroko, Nama (C3) *xam* ≠khara-kha.
- 398 MIMOSA /Nu-//'e (S6) //kū, //Kh'au-//'e (N1) !gū, Naron (C2) !gōba.

- 399 MIX /Kham (S1) (*hweitən*) //kōitē, Tati (C1) //kai//kai.
- 400 MOISTEN Khakhea (S5) čā 'pour,' //Kh'au-//'e (N1) čā 'pour,'
!Kung (N2) ča, !'O-!Kung (N3) čā 'pour,' Tati (C1) ča.
- 401 MOO (v.) //Ng-!e (S2) k"ā, Khakhea (S5) //k"ā, /Nu-//'e (S6) k"ā,
Naron (C2) k"ai.
- 402 MOON /Kham (S1) !ka!karo, //Ng-!e (S2) !koro, //Khegwi (S3)
kolo, Khakhea (S5) !xān, /Nu-//'e (S6) !xān, //Kh'au-//'e (N1)
!ka!kani, !'O-!Kung (N3) !ka!karī (še), Nama (C3) ≠kani 'new moon.'
- 403 MORNING₁ /Nu-//'e (S6) !kobe, !'O-!Kung (N3) kɔvəkɔvə.
- 404 MORNING₂ Khakhea (S5) kōma, //Kh'au-//'e (N1) kōma, !Kung
(N2) /kām(/gi).
- 405 MORTAR (WOODEN) Khakhea (S5) !kai, !Kung (N2) !ke, !'O-
!Kung (N3) !kei, Tati (C1) !koe.
- 406 MOTHER /Kham (S1) mama, /Nu-//'e (S6) mama, Nama (C3) ma-
mas.
- 407 MOTHER-IN-LAW //Kh'au-//'e (N1) /wi dzou, !Kung (N2) /wiso
(!nāa), Naron (C2) /wisa, Nama (C3) /ūis.
- 408 MOUNTAIN Khakhea (S5) /num, /Nu-//'e (S6) !gum, //Kh'au-//'e
(N1) !num, !Kung (N2) !num.
- 409 NAIL (FINGER-) /Kham (S1) //kuru, //Ng-!e (S2) //kuri, //Khegwi
(S3) //kōla, !'Auni (S4) //kōra, //Kh'au-//'e (N1) //kuru, !Kung (N2)
//kuru, !'O-!Kung (N3) //kulu, Naron (C2) //k'oro, Nama (C3) //goros.
- 410 NAVEL //Kh'au-//'e (N1) !num, !Kung (N2) !num, Tati (C1) !kom,
Naron (C2) !num.
- 411 NEAR //Kh'au-//'e (N1) /kū 'to be near,' Tati (C1) /ku, Naron
(C2) /kū, Nama (C3) /gu.
- 412 NECKLACE //Kh'au-//'e (N1) //kale !ām, Tati (C1) //kaie.
- 413 NEEDLE /Kham (S1) //kēiŋ, //Ng-!e (S2) //kēnja, !'O-!Kung (N3)
//ēisi.
- 414 NET /Kham (S1) /ūi, //Kh'au-//'e (N1) /wī, Naron (C2) /wīšiba,
Nama (C3) /uis.
- 415 NICE /Kham (S1) twai-i, //Ng-!e (S2) tsaī, //Kh'au-//'e (N1) tāi,
Naron (C2) tōi.
- 416 NO Khakhea (S5) ḡḡ, /Nu-//'e (S6) ḡḡ, //Kh'au-//'e (N1) ḡḡ, !Kung
(N2) ḡḡ, Naron (C2) ḡḡ.
- 417 NO/NOT₁ //Khegwi (S3) ka, //Kh'au-//'e (N1) kā, Naron (C2) kāa,
Nama (C3) ga.
- 418 NO/NOT₂ //Khegwi (S3) /kēwa, !'Auni (S4) /ka, /Nu-//'e (S6)
/kwa, //Kh'au-//'e (N1) /kwá ~ /ká, !Kung (N2) /kūā, !'O-!Kung
(N3) /kwa.

- 419 NOSE //Kh'au-//'e (N1) č'ũ, !Kung (N2) ts'ũ, !'O-!Kung (N3) tsn ~ čn.
- 420 OLD₁ //Ng-!e (S2) !nain, //Kh'au-//'e (N1) !nā, !'O-!Kung (N3) //nāa.
- 421 OLD₂ Khakhea (S5) //xau, //Kh'au-//'e (N1) /gò, !'O-!Kung (N3) //gāa, Tati (C1) //gao.
- 422 ONION (WILD) /Kham (S1) !kauĩ, //Ng-!e (S2) !ōũ, //Kh'au-//'e (N1) !gau.
- 423 OSTRICH /'Auni (S4) kō, /Nu-//'e (S6) koi, //Kh'au-//'e (N1) !gò, !Kung (N2) !kúĩ, !'O-!Kung (N3) !gòe.
- 424 OTHER //Kh'au-//'e (N1) !nwĩ, !'O-!Kung (N3) /nwĩ, Nama (C3) /ni.
- 425 PACK UP //Kh'au-//'e (N1) !nau, Nama (C3) !nao.
- 426 PASS Khakhea (S5) //kwai 'to pass behind,' //Kh'au-//'e (N1) //kai 'to pass in front,' !'O-!Kung (N3) //ki.
- 427 PATH Khakhea (S5) dau, /Nu-//'e (S6) dau, //Kh'au-//'e (N1) dāusa, Tati (C1) dhau, Naron (C2) dauba, Nama (C3) daob.
- 428 PAUW (a kind of peacock) /Kham (S1) !kũ, //Ng-!e (S2) !kũ, //Kh'au-//'e (N1) !gwi, !'O-!Kung (N3) /gwi, Nama (C3) !huib.
- 429 PICK //Ng-!e (S2) //kā 'to pick up,' /Nu-//'e (S6) //kai, //Kh'au-//'e (N1) //géi.
- 430 PIERCE //Kh'au-//'e (N1) doro, Naron (C2) doro, Nama (C3) doro.
- 431 PIG //Kh'au-//'e (N1) gari, Nama (C3) girib.
- 432 PLACE (n.) /Kham (S1) ti, /'Auni (S4) ti (su), !Kung (N2) si.
- 433 PLAY THE BOW //Kh'au-//'e (N1) /nam, !Kung (N2) ≠neam, !'O-!Kung (N3) /nam ~ ≠nam, Nama (C3) ≠nam.
- 434 PLEASE (IF YOU —) Khakhea (S5) !nā, !Kung (N2) /nāa.
- 435 PLUCK₁ /Kham (S1) thuru, Naron (C2) čxoro, Nama (C3) tsuru.
- 436 PLUCK₂ //Kh'au-//'e (N1) šwe, !Kung (N2) swà, !'O-!Kung (N3) swà ~ šwa, Tati (C1) čwako, Naron (C2) čwĩ.
- 437 PLUNGE INTO /Kham (S1) !kum (/ē), //Kh'au-//'e (N1) !gom.
- 438 POOR //Kh'au-//'e (N1) /gā, Tati (C1) kaa, Naron (C2) /kāna, Nama (C3) /gā.
- 439 PORCUPINE //Ng-!e (S2) /kwĩ, Tati (C1) gwee.
- 440 POSSESS /Kham (S1) //ēĩ, Nama (C3) //ēĩ.
- 441 POSSESSIVE PARTICLE /Nu-//'e (S6) -ti, Naron (C2) -di.
- 442 POT₁ /Kham (S1) !kōā, //Ng-!e (S2) !kōā, !'O-!Kung (N3) !k'á.
- 443 POT₂ /'Auni (S4) ≠am, Tati (C1) ama.
- 444 POT₃ //Khegwi (S3) ču, Naron (C2) šūba 'clay pot,' šū ša 'iron pot,' Nama (C3) súš.
- 445 POUND /Kham (S1) /kum, Tati (C1) /kom.

- 446 POUR Khakhea (S5) //ko, Nama (C3) //hò.
- 447 PRAY //Kh'au-//e (N1) /gore, Naron (C2) /gore (ma še), Nama (C3) /gore.
- 448 PUFF-ADDER /'Auni (S4) (lka) !gāi, Tati (C1) gāi, Nama (C3) !gēis.
- 449 PUT /Kham (S1) /ē /ē 'to put in,' //Ng-!e (S2) /ē 'to put in,' //Kh'au-//e (N1) /ē 'to put in,' Tati (C1) /ge 'to put in.'
- 450 PYTHON /Kham (S1) //kē(tən), !Kung (N2) (l̩na) //kē.
- 451 QUIET, TO BE₁ /Kham (S1) kwē, !Kung (N2) kwē.
- 452 QUIET, TO BE₂ /Kham (S1) ≠gou, Tati (C1) goo.
- 453 QUIVER //Ng-!e (S2) !gōru, /'Auni (S4) !kōru, //Kh'au-//e (N1) !kuru, !Kung (N2) !kuru, Nama (C3) !gurus.
- 454 RAIN (n.) //Ng-!e (S2) !khā, /'Auni (S4) //khā, Khakhea (S5) //ka, //Kh'au-//e (N1) !gā, !Kung (N2) //gā, !O-!Kung (N3) //gā.
- 455 RAIN (v.) /Kham (S1) kāū, //Ng-!e (S2) kāū, !O-!Kung (N3) kāū.
- 456 RAIN TIME !O-!Kung (N3) bōla, Tati (C1) bara.
- 457 RAM //Kh'au-//e (N1) gū(//gōō), !Kung (N2) gū(//gōō), Tati (C1) ju, Naron (C2) gūba, Nama (C3) gūb.
- 458 RAW /Kham (S1) /kā, //Ng-!e (S2) /xā, !Kung (N2) /káŋ.
- 459 RED Khakhea (S5) /kanja, /Nu-//e (S6) /gāne, //Kh'au-//e (N1) !gā, !Kung (N2) !gā, !O-!Kung (N3) !gai, Nama (C3) //gani.
- 460 REED /Kham (S1) !nwā, //Kh'au-//e (N1) !nwā, !Kung (N2) //nōa.
- 461 RESEMBLE /Kham (S1) //kei/kei, !Kung (N2) //ke/ke.
- 462 RETURN //Kh'au-//e (N1) débi, !Kung (N2) débi, !O-!Kung (N3) dēbi ~ dibi, Naron (C2) débi.
- 463 RHINOCEROS₁ //Kh'au-//e (N1) /xī, !Kung (N2) /khí, Tati (C1) kxii.
- 464 RHINOCEROS₂ Khakhea (S5) !gōba, //Kh'au-//e (N1) !naba, !Kung (N2) !naba, Tati (C1) gaba, Naron (C2) !naba, Nama (C3) !nāvas.
- 465 RIDE /Kham (S1) !kabi, //Kh'au-//e (N1) ≠kabi, !Kung (N2) !kabi, Naron (C2) !kabe, Nama (C3) !gavi.
- 466 RISE /Kham (S1) !kwai, Naron (C2) !kwā.
- 467 RIVERBED /Nu-//e (S6) dum, //Kh'au-//e (N1) dùm, Naron (C2) dùmba.
- 468 ROAST₁ //Kh'au-//e (N1) s'ō ~ šou, !Kung (N2) sou ~ sau, !O-!Kung (N3) šau, Tati (C1) čoo.
- 469 ROAST₂ !O-!Kung (N3) /kū, Naron (C2) ≠kū.
- 470 ROLL₁ Khakhea (S5) //nai, !Kung (N2) //nai (gangani).
- 471 ROLL₂ !O-!Kung (N3) galē, Nama (C3) gari.
- 472 ROOT /Nu-//e (S6) //kani 'root fibre,' //Kh'au-//e (N1) //kari 'root fibre,' !Kung (N2) //keri 'root fibre,' !O-!Kung (N3) //kari.

- 473 ROPE //Kh'au-//'e (N1) *!kwí*, Tati (C1) *gwii*, Naron (C2) *!gwĩša*.
 474 RUB₁ Khakhea (S5) *!kum*, Naron (C2) *!kū*.
 475 RUB₂ //Ng-!e (S2) (*/kuna*) */ē*, //Kh'au-//'e (N1) */xē*, Naron (C2) */xēi*.
 476 RUB₃ Khakhea (S5) *šoa*, //Kh'au-//'e (N1) *ššā*.
 477 RUN /'Auni (S4) *!kuŋ*, Naron (C2) *!kū*.
 478 SALT //Kh'au-//'e (N1) *dabe*, Tati (C1) *debe*, Naron (C2) *dabe*.
 479 SAY /Kham (S1) *kūi*, //Kh'au-//'e (N1) *k'wí*, !Kung (N2) *k'wí*, !O-!Kung (N3) *k'wí*, Naron (C2) *k'wí* 'speak'.
 480 SCORPION /Nu-//'e (S6) *//kaĩ*, Tati (C1) *//kadi*.
 481 SCRAPE /Kham (S1) *≠nai* (*туру*), !Kung (N2) *≠nwāĩ*.
 482 SCRATCH Khakhea (S5) *čali*, !Kung (N2) *čxane*, !O-!Kung (N3) *čxə*.
 483 SCREAM !Kung (N2) *!kóu*, Nama (C3) *!hao*.
 484 SEE₁ /Kham (S1) */nĩ*, //Ng-!e (S2) */nĩ*, //Khegwi (S3) */nē*, Khakhea (S5) */ne*, /Nu-//'e (S6) */nē*, !O-!Kung (N3) */ne*.
 485 SEE₂ /Kham (S1) *mu* (*≠en*) 'recognize' (literally, "see know"), Tati (C1) *moo*, Naron (C2) *mū*, Nama (C3) *mū*.
 486 SEEDS₁ //Kh'au-//'e (N1) */nōsi*, !Kung (N2) */nēsij*, Naron (C2) */ne* */kēsi*.
 487 SEEDS₂ !O-!Kung (N3) *!kó*, Nama (C3) *!komi*.
 488 SEEK //Kh'au-//'e (N1) *k'aru*, !Kung (N2) *k'aru* ~ *k'atu*, !O-!Kung (N3) *kwātu*, Naron (C2) *k'ātu*.
 489 SETTLE (birds) Khakhea (S5) *//khá*, //Kh'au-//'e (N1) *//kauwa*, !Kung (N2) *//kūwa*, !O-!Kung (N3) */nàua*.
 490 SEW //Kh'au-//'e (N1) *!gé*, !Kung (N2) *!géi*, !O-!Kung (N3) *!gèi*, Naron (C2) *!gāĩ*.
 491 SHADE₁ //Ng-!e (S2) *//ʌhǎŋ*, !Kung (N2) *//kəhǎ* ~ *//khōǎ*.
 492 SHADE₂ /Kham (S1) *!əm*, !O-!Kung (N3) *!kána*.
 493 SHADE₃ /'Auni (S4) *səm*, Khakhea (S5) *šum*, /Nu-//'e (S6) *šəm*, Tati (C1) *šom*, Nama (C3) *somi*.
 494 SHADE₄ //Kh'au-//'e (N1) *!karise*, Tati (C1) */karaise*, Nama (C3) *!àris*.
 495 SHAKE₁ Khakhea (S5) *!nəpəm*, !Kung (N2) *//nabuä*, !O-!Kung (N3) *//nabi//nabi*.
 496 SHAKE₂ //Kh'au-//'e (N1) *//kai*, Naron (C2) *//kaijə*.
 497 SHAVE //Kh'au-//'e (N1) *//nau*, Naron (C2) *//nau*.
 498 SHEEP Khakhea (S5) *gū* ~ *kū*, //Kh'au-//'e (N1) *gū*, !Kung (N2) *gū*, !O-!Kung (N3) *gū*, Tati (C1) *ju*, Naron (C2) *gūša*, Nama (C3) *gūš*.
 499 SHELL₁ /Kham (S1) *tū*, !Kung (N2) *čum*.

- 500 SHELL₂ /Kham (S1) *horo* 'eggshell,' Nama (C3) *soros*.
- 501 SHINE /Kham (S1) $\neq x\bar{i}$, !Kung (N2) $\neq xi$.
- 502 SHOE /'Auni (S4) //abo, Tati (C1) //kabo, Naron (C2) //nabo.
- 503 SHOOT //Ng-!e (S2) //kãũ, Naron (C2) //xãũ.
- 504 SHOOT (with a gun) //Ng-!e (S2) !nwā, /'Auni (S4) $\neq n'oa$, /Nu-//e (S6) !nwā, //Kh'au-//e (N1) !nwā, Naron (C2) !nwā, Nama (C3) $\neq noá$.
- 505 SHORT₁ !Kung (N2) !kōma, Tati (C1) //komnje, Naron (C2) !gum ~ //kum.
- 506 SHORT₂ //Kh'au-//e (N1) !g5, !'O-!Kung (N3) !kō ~ !ko!ko, Tati (C1) !kxo (*kadi*).
- 507 SHOULDER //Kh'au-//e (N1) !kōma, Naron (C2) //kum.
- 508 SHOULDERBLADE /Kham (S1) //gǎi, //Ng-!e (S2) //gǎi, Khakhea (S5) //gǎi, /Nu-//e (S6) //gore, //Kh'au-//e (N1) !nōru, !Kung (N2) //nūuru, Naron (C2) //nara, Nama (C3) //garāb.
- 509 SHOW (v.) /Kham (S1) //nēja, Nama (C3) //nai.
- 510 SHUT /Kham (S1) /kām, Khakhea (S5) /kū, //Kh'au-//e (N1) /ũ 'shut eyes,' !Kung (N2) /ú 'shut eyes,' Tati (C1) /kum, Naron (C2) /kām, /ūm 'shut eyes,' Nama (C3) /óm 'shut eyes.'
- 511 SING //Ng-!e (S2) /nē, Khakhea (S5) //nai, //Kh'au-//e (N1) //nai, Naron (C2) //nei, Nama (C3) //nāi.
- 512 SINK Khakhea (S5) //kwā, Naron (C2) //gwā.
- 513 SIT /Kham (S1) *s'ō* ~ *s'ō*, //Ng-!e (S2) *s'5* ~ *s'ō*, //Khegwi (S3) *šō*, Khakhea (S5) *tsũ*, *čũ* (/ki) 'to sit down,' /Nu-//e (S6) *šu* ~ *čũ*, //Kh'au-//e (N1) *śũ* 'to sit down.'
- 514 SKY /Nu-//e (S6) !nari (*sa*), Naron (C2) !nērība.
- 515 SLOWLY /Nu-//e (S6) !kwoisa, //Kh'au-//e (N1) //k'wēsi, Naron (C2) //kwēše.
- 516 SMEAR //Kh'au-//e (N1) /xauä, !'O-!Kung (N3) //kauwa, Nama (C3) *kóu*.
- 517 SMOKE₁ (v.) !'O-!Kung (N3) !gùm, Tati (C1) *gom*.
- 518 SMOKE₂ (v.) //Kh'au-//e (N1) /k55, !'O-!Kung (N3) /k5, Naron (C2) /kō5.
- 519 SMOOTH, TO BE !Kung (N2) *tó*, Naron (C2) *tó*.
- 520 SNAKE //Ng-!e (S2) /k'au, /'Auni (S4) (*si*) /k'au, !'O-!Kung (N3) /kãũ, Tati (C1) /gauo, Naron (C2) /kaūba, Nama (C3) /àob.
- 521 SNORE /Kham (S1) !hàin, Nama (C3) !khaun.
- 522 SO, TO BE /Kham (S1) /kwēú, !'O-!Kung (N3) *kwē*.
- 523 SOON /Kham (S1) /kǎti, Nama (C3) /ōse.
- 524 SPARROW //Kh'au-//e (N1) //áru, Naron (C2) //áruba.

- 525 SPOON₁ //Ng-'e (S2) /xame, Khakhea (S5) /g_Λm, /Nu-/'e (S6) ≠g_Λm, !Kung (N2) ≠k_Λm.
- 526 SPOON₂ /Nu-/'e (S6) //goa, //Kh'au-/'e (N1) /gwã, Naron (C2) //gwāba, Nama (C3) //goāb.
- 527 SPOOR₁ //Kh'au-/'e (N1) !gò, !'O-!Kung (N3) //gō, Naron (C2) //kōša.
- 528 SPOOR₂ //Kh'au-/'e (N1) dàusa, Naron (C2) dàušā, Nama (C3) daob.
- 529 SPRING (season) /Kham (S1) !káuä, /Nu-/'e (S6) //hau, //Kh'au-/'e (N1) !kā, !'O-!Kung (N3) !kōā, Naron (C2) !xōba, Nama (C3) !avāb.
- 530 SPRINGBOK₁ (a kind of antelope) //Khegwi (S3) !kōā, //Kh'au-/'e (N1) !kō.
- 531 SPRINGBOK₂ //Ng-'e (S2) !gai, Naron (C2) !gàiba, Nama (C3) !háeb.
- 532 STALK (n.) /Kham (S1) !kwā, !'O-!Kung (N3) !?ā.
- 533 STAMP₁ (v.) /Kham (S1) !um, Khakhea (S5) !um, Nama (C3) !hū.
- 534 STAMP₂ (v.) /Kham (S1) /kum, Tati (C1) /kom.
- 535 STAR //Kh'au-/'e (N1) ≠gōe, !Kung (N2) ≠kō, Tati (C1) ≠kxaine, Nama (C3) ≠kani.
- 536 STAY /Nu-/'e (S6) ha, Naron (C2) hā, Nama (C3) hā.
- 537 STEAL //Kh'au-/'e (N1) č'ā, !Kung (N2) čā, !'O-!Kung (N3) č'ā, Tati (C1) tsaa, Naron (C2) čā ~ tsā.
- 538 STEENBOK (a kind of antelope) Khakhea (S5) /gai, /Nu-/'e (S6) /gī, Tati (C1) gaie, Naron (C2) !gèiba.
- 539 STICK₁ (n.) //Khegwi (S3) ⊙ho, /'Auni (S4) ⊙hōā, Nama (C3) !hōas.
- 540 STICK₂ (n.) //Kh'au-/'e (N1) //abi, Naron (C2) //abi.
- 541 STILL (adv.) /Kham (S1) !kařa, //Kh'au-/'e (N1) //keire, Naron (C2) !kane ~ //kàra.
- 542 STIR //Ng-'e (S2) hōrí, Naron (C2) hōrí.
- 543 STONE /Nu-/'e (S6) !um, //Kh'au-/'e (N1) !num, !Kung (N2) !num, !'O-!Kung (N3) !num.
- 544 STOP /Kham (S1) /kum 'stop up,' Khakhea (S5) //kū, /Nu-/'e (S6) //kū ~ //u, Nama (C3) /ú.
- 545 STORK /Nu-/'e (S6) //nōbe, !Kung (N2) !nōbo.
- 546 STRETCH₁ /Kham (S1) !gouwa, //Kh'au-/'e (N1) !gō.
- 547 STRETCH₂ /Kham (S1) //kau, Naron (C2) //xauē.
- 548 STUPID //Kh'au-/'e (N1) kàra, Nama (C3) gāre.
- 549 SUCK /Kham (S1) /ómi, //Kh'au-/'e (N1) /num, !Kung (N2) /kum, Naron (C2) /kum, Nama (C3) /góm.

- 550 SUMMER₁ /Kham (S1) //kwána, Nama (C3) //kunab.
 551 SUMMER₂ Khakhea (S5) !nwā, //Kh'au-//e (N1) !nau, Naron (C2) //nauba.
 552 SUN //Kh'au-//e (N1) /kλm, !Kung (N2) /kλm, !O-!Kung (N3) /kλm, Tati (C1) /kam, Naron (C2) /kλmša.
 553 SWALLOW (v.) //Kh'au-//e (N1) tum, Tati (C1) t'om, Naron (C2) tùm.
 554 SWEET₁ /Kham (S1) t'wañ, //Kh'au-//e (N1) t'ōi.
 555 SWEET₂ //Ng-!e (S2) t'jaŋ, !Kung (N2) táŋ.
 556 SWELL /Kham (S1) xē, Naron (C2) xāi, Nama (C3) xāi.
 557 SWING (v.) !Kung (N2) //nabu, Naron (C2) //abi.
 558 TAIL /Kham (S1) !khwi, //Kh'au-//e (N1) !khwí, !Kung (N2) //khwe, !O-!Kung (N3) //kwé.
 559 TAKE /Kham (S1) ≠nī 'take away,' Nama (C3) ≠nei.
 560 TATTOO₁ (v.) /Nu-//e (S6) //ka, !O-!Kung (N3) //kɔ.
 561 TATTOO₂ (v.) //Kh'au-//e (N1) /k'ore, /'Auni (S4) /kore (sa) (n.), Naron (C2) /kore (n.).
 562 TEACH //Ng-!e (S2) //xa//xa-ā, //Kh'au-//e (N1) //ka//ka, Naron (C2) //xa//xa, Nama (C3) //khā//khā.
 563 TEAR (n., "rip") /Kham (S1) twī, Khakhea (S5) čwe, Tati (C1) twi.
 564 THAT₁ (dem. adj.) Khakhea (S5) ti, /Nu-//e (S6) ti, //Kh'au-//e (N1) čī, !Kung (N2) šī.
 565 THAT₂ (dem. adj.) /Kham (S1) ha, //Ng-!e (S2) a, //Khegwi (S3) ha, Khakhea (S5) a, Tati (C1) a ~ ho.
 566 THAT₃ (dem. adj.) /Kham (S1) /kēá, //Ng-!e (S2) /neá, Naron (C2) /ne.
 567 THAT (rel.) /Kham (S1) ē, //Ng-!e (S2) ē, !Kung (N2) e, Naron (C2) ē.
 568 THAT (conj.) /Kham (S1) ti (ē), Tati (C1) čī.
 569 THERE /Kham (S1) //na, //Ng-!e (S2) //na, Khakhea (S5) //na, /Nu-//e (S6) //na, !O-!Kung (N3) ≠na, Naron (C2) //na, Nama (C3) //naba.
 570 THEY /'Auni (S4) sa 'them,' //Kh'au-//e (N1) sa, !Kung (N2) sa, !O-!Kung (N3) sa.
 571 THIGH /Kham (S1) tē, //Khegwi (S3) tē, /Nu-//e (S6) tē, Tati (C1) tee, Naron (C2) tēša, Nama (C3) tēs.
 572 THING /Kham (S1) ti ~ ts'a, /'Auni (S4) ča, Khakhea (S5) ča, //Kh'au-//e (N1) čī ~ ča, !Kung (N2) čī ~ šī, !O-!Kung (N3) čī.
 573 THINK /Kham (S1) ≠ē ~ ī, //Ng-!e (S2) ≠ē ~ ī, //Kh'au-//e (N1) ≠ē, !Kung (N2) ≠īŋ, Naron (C2) ≠ī, Nama (C3) ≠ēi.

- 574 THIS₁ Khakhea (S5) *te(a) ~ ti (a)*, //Kh'au-// 'e (N1) *či ~ tsi*, !'O-!Kung (N3) *či*.
- 575 THIS₂ /Kham (S1) *ēá*, //Ng-! 'e (S2) *a*, !Kung (N2) *e ~ ēa ~ ēja*, Tati (C1) *e*.
- 576 THIS₃ //Kh'au-// 'e (N1) /*ní*, Naron (C2) /*ní ~ ne*.
- 577 THONG /Kham (S1) *!hāũ*, //Kh'au-// 'e (N1) *!nou*, Naron (C2) *!nāuba*, Nama (C3) *!hōũb*.
- 578 THORN Khakhea (S5) //kaba, /Nu-// 'e (S6) //kaba, Tati (C1) //kam, Naron (C2) //gama, Nama (C3) //khāb.
- 579 THOU /Kham (S1) *a*, //Ng-! 'e (S2) *a*, //Khegwi (S3) *a*, /'Auni (S4) *a*, Khakhea (S5) *a*, /Nu-// 'e (S6) *a*, //Kh'au-// 'e (N1) *a*, !Kung (N2) *ā* 'thee,' !'O-!Kung (N3) *a*.
- 580 THREE /Kham (S1) *!nwɔna*, //Ng-! 'e (S2) *!nwana*, //Khegwi (S3) *khɔana*, /'Auni (S4) *!nwɔna*, //Kh'au-// 'e (N1) *!naní*, Tati (C1) *ngo-nawe*, Naron (C2) *!nwɔna*, Nama (C3) *!nona*.
- 581 THROAT /Kham (S1) *dom*, //Kh'au-// 'e (N1) *dòm*, !Kung (N2) *dòm*, !'O-!Kung (N3) *dòm*, Tati (C1) *dham (/kwia)*, Naron (C2) *dòm*, Nama (C3) *domi*.
- 582 THROW₁ Khakhea (S5) //g^ham, Tati (C1) //gama 'to throw away.'
- 583 THROW₂ //Kh'au-// 'e (N1) /*namú* 'to throw away,' Naron (C2) /*name* 'to throw down,' Nama (C3) /*namí* 'to throw down.'
- 584 THUNDER /Nu-// 'e (S6) (*!xwē še*) *tana*, !'O-!Kung (N3) (*//gā ne*) *tala*.
- 585 TIE (v.) /Kham (S1) //hiŋ, //Ng-! 'e (S2) //ē ~ //kēĩn 'sew,' Khakhea (S5) //hē, //Kh'au-// 'e (N1) //ēĩ ~ //ĩ, !Kung (N2) //ĩŋ, !'O-!Kung (N3) //ēĩ, Nama (C3) ≠hĩ.
- 586 TIME //Kh'au-// 'e (N1) //aiä, Nama (C3) //aib.
- 587 TINDERBOX /Kham (S1) (*//kau*) *doro*, /'Auni (S4) *doro* (≠nantá), //Kh'au-// 'e (N1) *dari*, !Kung (N2) (*ší*) *tɔroha*, Naron (C2) *doroša*, Nama (C3) *doros*.
- 588 TIRED /Kham (S1) //kú, //Kh'au-// 'e (N1) //kwĩ, Naron (C2) //k'wiä.
- 589 TOGETHER /Kham (S1) //k'ē, //Kh'au-// 'e (N1) //kai, Tati (C1) //kae, Naron (C2) //kaiä, Nama (C3) //ai.
- 590 TOMORROW Khakhea (S5) *kòma*, //Kh'au-// 'e (N1) *!nwe kòma ~ kòmaká*, !'O-!Kung (N3) *kòmakɔma*.
- 591 TORTOISE₁ /Nu-// 'e (S6) //néisi, !'O-!Kung (N3) //nēša.
- 592 TORTOISE₂ /Kham (S1) //gō, //Ng-! 'e (S2) //gō, //Kh'au-// 'e (N1) //gwā, !Kung (N2) //kōā, Naron (C2) //gwēba.
- 593 TOUCH /Kham (S1) *tātā*, Nama (C3) *tsā (/kha)*.

- 594 TRAP (n.) //Kh'au-//e (N1) !gwi, !Kung (N2) !gwi, Naron (C2) !gwíša.
- 595 TRAVEL (v.) !Kung (N2) //k'λm, Naron (C2) //kλm.
- 596 TROT /Nu-//e (S6) !gaba, !Kung (N2) !kaba.
- 597 TURN !Kung (N2) gabi, Tati (C1) gabi, Naron (C2) gàbi (ši), Naron (C2) khabi.
- 598 TWIST //Kh'au-//e (N1) tɔro, Tati (C1) tsonoo, Naron (C2) tórnu, doro 'twirl.'
- 599 TWO /'Auni (S4) /kλm, Tati (C1) /kamnje, Naron (C2) /kλm, Nama (C3) /gam.
- 600 UNTIE /Kham (S1) kwəre, !Kung (N2) kwara, Nama (C3) kore.
- 601 VELD /Kham (S1) !kauxu, //Ng-'e (S2) !āũ tsĩ, Tati (C1) kaoo, Nama (C3) loúb.
- 602 VISIT (v.) //Kh'au-//e (N1) //gāĩ, !Kung (N2) //ga, Tati (C1) //gaie, Naron (C2) /gǎ.
- 603 VOCATIVE /Kham (S1) -wε, //Ng-'e (S2) -bε, Khakhea (S5) -bε, !Kung (N2) -we.
- 604 WAIT₁ /Kham (S1) !kā ~ !kã, !Kung (N2) !ka ~ !kã, Naron (C2) !kã.
- 605 WAIT₂ //Ng-'e (S2) //nλm, Nama (C3) //nàm.
- 606 WALK Khakhea (S5) !hũ, Naron (C2) !kũ, Nama (C3) !gũŋ.
- 607 WALL Khakhea (S5) !ani, Nama (C3) !anib.
- 608 WANT /'Auni (S4) /kau/kau, //Kh'au-//e (N1) ≠kau, Naron (C2) ≠kau, Nama (C3) ≠gao.
- 609 WARM //Khegwi (S3) kuruwa, Naron (C2) kuruša.
- 610 WASH //Kh'au-//e (N1) //k'a, !Kung (N2) //ka, !O-!Kung (N3) //k'a, Naron (C2) //k'ã, Nama (C3) //ã.
- 611 WASP₁ /Kham (S1) !khóu, !Kung (N2) !gāũ!gāũa.
- 612 WASP₂ //Kh'au-//e (N1) gáu, Naron (C2) gwāgwā.
- 613 WASP₃ //Kh'au-//e (N1) /gəru, Naron (C2) /garuba, Nama (C3) /gerub.
- 614 WATER (v.) Naron (C2) /nã ~ /kã/kã, Nama (C3) /ã-/ã.
- 615 WATERHOLE /Kham (S1) xwara, Tati (C1) hwere.
- 616 WE (inc.) /Kham (S1) i, //Ng-'e (S2) i ~ e, //Khegwi (S3) i, /'Auni (S4) e, Khakhea (S5) i, /Nu-//e (S6) i, //Kh'au-//e (N1) e (!ka) 'we masc.,' e(he) 'we fem.,' !Kung (N2) i, !O-!Kung (N3) i ~ e 'we.'
- 617 WE (ex.) /Kham (S1) si, //Ng-'e (S2) si, //Khegwi (S3) si, /'Auni (S4) si, Khakhea (S5) ši, /Nu-//e (S6) si, !Kung (N2) šiši, Naron (C2) ši(-//kei) 'we masc.,' ši(-ta) 'we fem.,' ši(-si) 'we common,' Nama (C3) si(-gje) 'we masc.,' si(-se) 'we fem.,' si(-da) 'we common.'

- 618 WHAT₁ (inter.) /Kham (S1) *ts'a-de*, !Kung (N2) *tsa-de*.
 619 WHAT₂ (inter.) /Kham (S1) *ts'a-ba*, //Kh'au-//e (N1) *če-ba*.
 620 WHAT₃ (inter.) /Kham (S1) *-ba*, //Kh'au-//e (N1) *-ba*.
 621 WHEN (rel.) //Kh'au-//e (N1) *kama*, Tati (C1) /*kam*, Naron (C2) *kama*.
 622 WHERE (inter.) /Nu-//e (S6) *maba*, Nama (C3) *mába*.
 623 WHICH (rel.) /Kham (S1) *ē ~ he* (pl.), //Ng-!e (S2) *he* (pl.), //Kh'au-//e (N1) *e*, !Kung (N2) *e*.
 624 WHIP (n.) /'Auni (S4) *tsami*, Khakhea (S5) *seme*, !Kung (N2) *tsàme*.
 625 WHISTLE //Kh'au-//e (N1) /*nλm*, Nama (C3) *≠nam*.
 626 WHO (inter.) /Kham (S1) *!ku-de* (*xa*), !Kung (N2) *!kū-de*.
 627 WHO (rel.) /Kham (S1) *ē ~ hē*, //Ng-!e (S2) *e ~ he*, //Kh'au-//e (N1) *e*, !Kung (N2) *e*, Naron (C2) *e*, Nama (C3) *i*.
 628 WILDEBEEST (BLUE) //Ng-!e (S2) *!gā*, //Kh'au-//e (N1) *!gē*, !Kung (N2) *!gi*, !'O-!Kung (N3) *!gēi*.
 629 WIND (n.) //Kh'au-//e (N1) *≠ā̃*, !Kung (N2) *≠ā̃*, Naron (C2) *≠ā̃ba*, Nama (C3) *≠oā̃b*.
 630 WIND (v.) /Kham (S1) *≠kλm* (*//kho*), //Kh'au-//e (N1) *≠kam*.
 631 WINGS /Nu-//e (S6) *//kabuxāte*, //Kh'au-//e (N1) *!nabusi*, Tati (C1) *//kabaa*, Naron (C2) *//kabuži*, Nama (C3) *//gavòkha*.
 632 WITH //Kh'au-//e (N1) /*kwa*, !Kung (N2) *kwe*, !'O-!Kung (N3) *kwe*, Naron (C2) *-kwe ~ /kwa*, Nama (C3) /*kà*.
 633 WOOD /Kham (S1) *○hō*, //Khegwi (S3) *○hō*, Tati (C1) /*hoo*.
 634 WORK //Ng-!e (S2) *sēsē ~ sijsiŋ*, /Nu-//e (S6) *sīsī*, //Kh'au-//e (N1) *sīsī*, Naron (C2) *sēsē*, Nama (C3) *sīsen*.
 635 WOUND (v.) /Kham (S1) *twī*, Khakhea (S5) *twī*, Nama (C3) *tswi*.
 636 WRITE₁ Khakhea (S5) *kwala*, Tati (C1) *kola*.
 637 WRITE₂ /Kham (S1) *xōä*, //Ng-!e (S2) *xwa*, !Kung (N2) *xōä*, Naron (C2) *xaua*, Nama (C3) *xoa*.
 638 YAWN (v.) /Kham (S1) *!gōägən*, //Kh'au-//e (N1) *!ōä*, !Kung (N2) *!kōä*.
 639 YES₁ //Ng-!e (S2) *jē*, /Nu-//e (S6) *ē*, //Kh'au-//e (N1) *ē*, Tati (C1) *je*, Naron (C2) *ē*.
 640 YES₂ Khakhea (S5) *ǀǀǀ*, !Kung (N2) *ǀǀǀ*.
 641 YOU₁ /Kham (S1) *u*, //Ng-!e (S2) *u*, /'Auni (S4) *u*, Khakhea (S5) *u*, !'O-!Kung (N3) *u*.
 642 YOU₂ /'Auni (S4) *i*, Khakhea (S5) *i*, /Nu-//e (S6) *i*, //Kh'au-//e (N1) *i*, !Kung (N2) *i*, !'O-!Kung (N3) *i*.
 643 YOUNG₁ /Kham (S1) *-○pwa*, //Ng-!e (S2) *-○pwa*, Naron (C2) /*kwa*.

- 644 YOUNG₂ /Nu-//’e (S6) -ma, //Kh’au-//’e (N1) -ma, !Kung (N2) -ma, !’O-!Kung (N3) -ma.
 645 ZEBRA !Kung (N2) !kwore, Nama (C3) !goreb.

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Proto-Yeniseian Reconstructions, with Extra-Yeniseian Comparisons

Sergei A. Starostin and Merritt Ruhlen

The small Yeniseian family of central Siberia—now reduced to a single extant language, Ket—has traditionally been considered an isolate.* Though less famous than the well-known European isolate, Basque, its genetic affinity has been considered no less mysterious. Even information on this family has not been easy to come by for those wishing to compare it with the world's other language families. Starostin (1982), however, has fundamentally changed this state of affairs. In this pivotal paper he not only reconstructed Proto-Yeniseian—and the sound laws that connect its several languages—but also sought to show its genetic connections with the Sino-Tibetan and (North) Caucasian families, and even the genetic connections of this larger family with the Nostratic family. The external connections of the Yeniseian family were further elaborated in Starostin (1984), which posited a Sino-Caucasian family (uniting Yeniseian, Sino-Tibetan, and (North) Caucasian), and Starostin (1989a) addressed the question of the relationship between Nostratic and Sino-Caucasian. Additional work by Bengtson (1991a,b), Chirikba

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(1985), and Nikolaev (1991) has led to the replacement of the name Sino-Caucasian by Dene-Caucasian (see Chapter 1). It should be noted that the higher-level comparisons between Proto-Yeniseian, Proto-Sino-Tibetan, and Proto-(North) Caucasian are based on the first author's reconstructions of all three families (Starostin 1989b, Nikolaev and Starostin 1992)—with due acknowledgment of previous work.

This chapter, an abridged version of Starostin (1982), gives the Proto-Yeniseian reconstructions and their reflexes in the various Yeniseian languages (again, of these, only Ket is extant). Also given are the extra-Yeniseian comparisons suggested by Starostin. My role, as second author, has been limited to translating Starostin's work from the original Russian, with the hope of making it accessible to a larger audience, and to adding a few extra-Yeniseian comparisons with Basque, Burushaski, Nahali, and Na-Dene. Since the appearance of Starostin's original article in 1982, additional proposed cognates have been suggested by John Bengtson, Václav Blažek, Sergei Nikolaev, and Starostin himself. Some of these are indicated at the ends of the etymologies thus supplemented.

Each entry is arranged alphabetically according to the semantic gloss, which is followed by the Proto-Yeniseian reconstruction and its reflexes in the six Yeniseian languages: Ket, †Yug, †Kott, †Arin, †Pumpokol, and †Assan. This information is followed by extra-Yeniseian comparisons with Old Chinese, Proto-Andi, Proto-Abkhaz-Adyg, Proto-Abkhaz-Tapant, Proto-Dagestanian, Proto-Indo-European, Proto-Kartvelian, Proto-Lezghian, Proto-Nax, Proto-Tsez, Proto-(North) Caucasian, Proto-Tibeto-Burman, and Proto-Sino-Tibetan, all taken from Starostin's article. The comparisons with Basque, Burushaski, Nahali, and Na-Dene are mine. The Na-Dene forms come from Greenberg (1981; see Chapter 5 herein); Burushaski forms, from Lorimer (1938); and Nahali forms, from Kuiper (1962).

For the most part the phonemic transcription follows that of Starostin's article. Thus, for example, *c* represents *t^s*, and *I* indicates pharyngealization of the preceding consonant. I have, however, used normal IPA symbols for the lateral fricatives and affricates, instead of the idiosyncratic Russian symbols; the effect is that what appear as *ṡ*, *ṣ̣*, *ḳ*, and *g̣* in the original article are here transcribed as *ɬ*, *ɮ*, *tʰ*, and *dʰ*. In addition, *í* and *ń* are represented by *ɿ* and *ɹ̃*, respectively, and *d^z* is used in place of *ʒ*. Furthermore, *ʌ* represents a lower-mid unrounded central vowel in the Yeniseian languages and in Burushaski, but a vowel of indeterminate timbre in the reconstructions. The meanings of all forms are the same as those of the Proto-Yeniseian reconstruction, unless specified otherwise.

Starostin's reconstructions follow:

- 1 ADJECTIVE SUFFIX *-se, Ket -ś, Yug -s, Kott -še. Cf. Proto-Dagestanian **śA-*, Proto-Andi **śA-*, Proto-Tsez **ś(λ)*.
- 2 ALIVE **ʔeʔte*, Ket *eäte*, Yug *eät*, Kott *ēti*, Arin *atie* ~ *ätie*, Pumpokol *atodu*, Assan *editu* ~ *etutu*.
- 3 ANGRY (TO BE) **χəjbλč*, Yug *χλjbət'*, Kott *haipičan* 'angry, cross.'
- 4 ARM **xire*, Ket *īλ(i)*, Arin *karam-*. Cf. Proto-(North) Caucasian **q̄^wIeλλ*.
- 5 ARMPIT **kλm-*, Kott *hamal*. Cf. Proto-Dagestanian **k'λmλ*, Proto-Lezghian **k'em*.
- 6 ARMPIT **qoλ-*, Ket *qoλ-*, Yug *xoλ-*. Cf. Proto-(North) Caucasian **q̄^w(I)λt̄¹i*, Proto-Tibeto-Burman **k(a)li*, Burushaski -*qat*, Nahali *kathla*. According to Kuiper (1962: 83), the Nahali form is borrowed from Kurku (Munda).
- 7 AUTUMN **χogde*, Ket *qogdi*, Yug *xogdi*, Kott *hōri*, Arin *kute*.
- 8 AWL **duʔt*, Ket *duʔt*, Yug *duʔt*, Kott *tūt*. Cf. Proto-Abkhaz-Adyg **d̄^wəd̄^w*, Proto-Abkhaz-Tapant **d̄^zad̄^z*, Old Chinese **tuj* (n.).
- 9 BACK (n.) **χəb-*, Ket *qəb-* ~ *qəv-*, Kott *hap-*, Arin *qop*, Pumpokol *kolpar*.
- 10 BACK (adv.) **suga*, Ket *śuga*, Yug *sugej*, Kott *śūka*, Pumpokol *tuk*. Cf. Burushaski -*sqa* 'on one's back.' Bengtson (1991a: 92) compares these forms with Basque *bi-zka-r*, Abkhaz (Caucasian) *a-zk^wa*, and Haida (Na-Dene) *sku*.
- 11 BADGER **χas*, Kott *hāš*. Cf. Proto-Dagestanian **χ^wIλrcā* 'squirrel, marten,' Proto-Nax **χešt* 'otter,' Basque *hartz* 'bear,' *azkonar* (< **harz-konH-*) 'badger'; for the second element of this latter form, see the Proto-Yeniseian word for WOLVERINE₁ below.
- 12 BALD/NAKED **tətpλl-*, Ket *tətpuλ*, Kott *t^hapalō*.
- 13 BE **hλs-*, Ket *uśaη*, Yug *ūse*, Kott *hičōga*. Cf. Basque *i-za-n*.
- 14 BEAK **kup*, Ket *kūp*, Yug *kup*. Cf. Proto-Dagestanian **q^wIepλ*.
- 15 BEAR (n.) **čajaη*, Kott *šajaη*, Pumpokol *xanki*. Cf. Proto-(North) Caucasian **c^{hw}āʔnλ*, Proto-Tibeto-Burman **s-wam*, Old Chinese **wəm*, Burushaski *yā*.
- 16 BEARD **kuλe(p)*, Ket *kūλe*, Yug *kūλ*, Kott *hulup*, Arin *korolep*, Pumpokol *xlep-uk*, Assan *xulūp*.
- 17 BELT₁ **hλqtλ*, Yug *axtaη* ~ *extaη*, Kott *hītēg*, Arin *ittä*.
- 18 BELT₂ **guʔda*, Ket *kuʔt*, Kott *kūra* 'cord, belt,' Assan *kura* 'rope.'
- 19 BERRY **sulpe-*, Kott *šulpi*, Arin *šulpä*.
- 20 BIG **χeʔ*, Ket *qeʔ*, Yug *xēʔ*, Pumpokol *xää-se*, Kott *hī-*. Cf. Proto-(North) Caucasian **aχ(I)i*.

- 21 BILE/BITTER *qAqAr, Ket qāl 'bile,' qōlīŋ 'bitter,' Yug xAxul 'bile,' xAxīlAŋ 'bitter,' Kott ogar 'bile,' ?Pumpokol leō-xoxar 'bladder' (? < 'gall bladder'). Cf. Proto-(North) Caucasian *q'eq'Λ ~ *eq'Λ- 'bitter,' Proto-Tibeto-Burman *ka 'bitter,' Old Chinese *qā?, Burushaski γāqAy(um). Bengtson (1991a: 110) adds Basque kharr-atx 'bitter, sour' and Werchikwar (a Burushaski dialect) qAqaa-m 'bitter, sour.'
- 22 BIRCH BARK *χi?w-, Ket qi?j, Yug xi?j, Kott hīpal.
- 23 BIRCH TREE *xūsa, Ket ūsə, Yug ū^hs, Kott ūča, Arin kus, Pumpokol uta.
- 24 BIRD *duma, Ket dūm, Yug dil-tīm, Kott al-tūma. Cf. Proto-(North) Caucasian *t'imHΛ.
- 25 BLOOD *sur, Ket sūl, Yug sur, Kott šur, Arin sur. Cf. Nahali corŋo. Kuiper (1962: 67) suggests the Nahali form is borrowed from Dravidian.
- 26 BOAT₁ *tAχA-, Ket tī, Yug tī, Arin taj, Pumpokol tig, Assan ul-tēj 'vessel.' Cf. Proto-(North) Caucasian *t'aqΛ 'vessel.'
- 27 BOAT₂ *qā(?)p, Yug xa(?)p, Kott xep. Cf. Proto-(North) Caucasian *q^wap'a, Old Chinese *qhāp 'wooden cup, vessel.'
- 28 BOIL (v.) *ʔəqan, Ket ān, Yug Axan, Kott auganaŋ 'cook.' Cf. Na-Dene: Haida k'unt^ldaa 'burn,' Tlingit gan 'burn,' Eyak d-q'a 'burn,' Kato k'an 'burn.'
- 29 BONE *ʔaʔd, Ket aʔt, Yug aʔt. Cf. Proto-Dagestanian *hIəmdΛ, Proto-Tsez *Hoḏ, Proto-Lezghian > Tsax ad.
- 30 BOW (n.) *χi?j, Ket qi?t, Yug qi?t', Kott hī, Arin qoj, Pumpokol kaj.
- 31 BRAID (OF HAIR) *sug-, Kott šugai ~ šukai. Cf. Proto-(North) Caucasian *śak^{hw}a ~ *k^{hw}aśa.
- 32 BRANCH *ʔəqe, Ket əRə, Yug əx, Kott ōge, Pumpokol kediŋ jaxi 'bough' (kediŋ = 'root').
- 33 BREAST *təga, Ket tAga, Yug tAga, Pumpokol tike. Cf. Proto-(North) Caucasian *jerk^wi ~ *rek^wi 'heart,' Proto-Tibeto-Burman *raŋ, Old Chinese *ʔ(r)ək, Burushaski tshAγur 'chest,' Na-Dene: Haida tek'o-go 'heart,' Tlingit tek 'heart,' Kutchin t'agu, Tahl-tan t'ódž-e, Hare t'oy, Mattole t^s'ooʔ. The Haida and Tlingit forms were added by Bengtson and Blažek (1992).
- 34 BREATH *ʔir₁- ~ *ʔirⁱ-, Ket īl, Yug īr. Cf. Proto-Dagestanian *hAflΛ, Proto-Andi > Tindi hā 'exhalation, steam,' Proto-Nax *ʕi 'exhalation, steam,' Proto-Lezghian *hel- 'exhalation, steam, respiration.' Nikolaev (1991: 55) compares these forms with Eyak xah^t 'hot-house, bath-house.'

- 35 BROTHER *bis, Ket *biš-ε?p*, Yug *bis-ε?p*, Kott *popēš*, *popēča* 'sister,' Pumpokol *bič*. Cf. Proto-(North) Caucasian *w-*ič^{hw}*;
?Proto-Tibeto-Burman *dzar 'man's sister,' ?Old Chinese **čəj?*
'older sister.' Bengtson (1991b: 135) adds Basque *a-hiz-pa* 'sister'
and Burushaski -*ačo* ~ -*aču* 'brother, sister'; and Nikolaev (1991:
49) adds Proto-Eyak-Athabaskan *wuʃ 'older brother.'
- 36 BUD *bajbʌl, Ket *bajbuʌ*, Yug *baibil*, Kott *koipala*. Cf. Basque
pipil.
- 37 BURN/FIRE *xɔt, Yug *xɔtn*, Kott *hat*, Arin *kōt* ~ *qot*. Cf. Na-
hali *oʈti*.
- 38 CEDAR *pəʔj, Ket *haʔj*, Yug *faʔj*, Kott *fei*, Arin *im-p^haj*, *p^haj-d'a*
'fir tree,' Pumpokol *pi*, Assan *pej*.
- 39 CHEEK *xol-, Ket *qɔʌet*, Yug *xɔlat*, Kott *hol*, Arin *bi-qoʌoŋ* 'my
cheek,' Assan *holan* 'cheeks.' Cf. Proto-Sino-Tibetan *qālH 'back,
cheek,' Na-Dene: Eyak *l-quhʔ*.
- 40 CHILD₁ *pʌl- ~ *pʌʔ- ~ *pʌr₁-, Arin *al-polat*, Pumpokol *phalla*
'boy, son.' Cf. Proto-Dagestanian *paHaḏ^lʌ 'boy, youngster,' Old
Chinese *bōk 'servant,' Burushaski *pilpili*, Nahali *palco* 'son.'
Kuiper (1962: 96) suggests the Nahali word may be a borrowing
from "pre-Dravidian."
- 41 CHILD₂ *dʒʌl, Ket *dīʌ*, Yug *dil*, Ket *d'al*, *d'aleä* 'girl,' Arin *bi-kal*
'boy, son,' *bi-kala* 'daughter,' Pumpokol *pi-kola* 'children, daughter,'
Assan *jali* 'children, boy.' Cf. Nahali *ejer* 'boy.'
- 42 CHILDREN *gəʔt, Ket *kaʔt*, *kitej* 'young,' Yug *kaʔt*, *kitej* 'young,'
Kott *kat*. Cf. Proto-(North) Caucasian *k^{hw}ercⁱ 'youngster,' Na-
hali *giṭa* 'younger brother,' Na-Dene: Haida *gyit* 'child,' *gīt* 'son,'
Tlingit *git'a* 'child,' *git* 'son,' Eyak *qēc* 'child,' *qē* 'son,' Navajo *γè?*
'son.'
- 43 CLAY *tuʔw-, Ket *tuʔ*, Arin *t'uburun*, Pumpokol *tu-*, Assan *t'u* ~
t^hu. Cf. Na-Dene: Haida *tow-ge* 'earth.'
- 44 CLAY/DIRT *təq-, Ket *tuyit* 'smear with clay,' *tagar* 'clay,' Yug
təx 'clay,' *tix-ket* 'smear with clay,' Kott *t^hagar* 'dirt,' As *tagar*
'clay,' *t^hagan* ~ *t^hakan* 'sand,' Arin *tanen* 'sand.' Cf. Basque *toska*
'clay,' Burushaski *tik* 'earth,' Nahali *t^sikal* 'earth,' Na-Dene: Haida
t^lig 'earth,' Tlingit *t^liak-ū* ~ *t^lit-tik* 'earth,' Eyak *tzatlkx* 'earth,'
Navajo *ʔe* 'earth.' Kuiper (1962: 67) considers the Nahali word a
borrowing from Kurku (Munda).
- 45 CLEAN (adj.) *tur- ~ *tul-, Yug *tul-en*. Cf. Proto-(North) Cau-
casian *dʒʌnfu, Proto-Tibeto-Burman *tsyɑŋ, Old Chinese *cheŋ.
Bengtson and Blažek (1992) add Basque *šanhu*.

- 46 CLEAN (v.) **-paX-*, Yug *fəgət*, Kott *ō-pajaŋ*. Cf. Burushaski *pāk* (adj.).
- 47 CLEAR (about weather) **puʔr*, Ket *hiʔʌ*, Yug *fiʔr*, Kott *p^hur* ~ *fur*.
- 48 CLOTHES **χäʔdʒ*, Ket *qaʔt*, Yug *xaʔt*, Kott *hei* 'fur coat, outer garment,' Arin *qaj*, Assan *hejaŋ*.
- 49 CLOUD *(*ʔas*)*paŋ*, Ket *aś-puʌ*, Yug *as-fiʌ*, Kott *aś-par*, Arin *ejš-paraŋ* ~ *es-peraŋ*. Cf. Burushaski *burūnč*.
- 50 COLD/FROST **ʃʌr₁* ~ **ʃʌl*, Kott *čal* 'cold' (n. & adj.), Arin *solo-ŋa* 'frost.' Cf. Proto-(North) Caucasian **reč*'ü 'cold,' Na-Dene: ?Beaver *tsíl* 'snowdrift.'
- 51 COMB **tuxʌ-ñ*, Ket *tuɣuñ*, Yug *tugin*, Kott *thun*, Arin *ten*. Cf. Proto-(North) Caucasian **hirig^wʌ*.
- 52 COPPER **tɪʔn*, Ket *tɪʔn*, Yug *tɪʔn*, Pumpokol *a-tin*.
- 53 COPPER/ORE **čur-*, Ket *tuʌä*, Assan *šur*. Cf. Proto-(North) Caucasian **corʌ* ~ **roca* 'copper.'
- 54 COUGH **χaqtʌm*, Ket *qaqtəm*, Yug *xaxtem*, Kott *hatam*.
- 55 COW **tɪχa*, Kott *t^hiʔä* ~ *t^higä*, Arin *t'ūja*, Assan *tig* ~ *tik*.
- 56 CRANE (bird) **xime*, Assan *imi*, Arin *kem*.
- 57 CRY (tears) **-ʌʃʌ(n)-*, Yug *d-īd'ä*, Kott *d-äčēnaŋ*, Arin *äšiinaŋ* 'I cry,' Pumpokol *čiin-du* 'I cry.'
- 58 CRY/SHOUT *(*h*)*uxʌ-*, Ket *d-ūɣə*, Kott *hujei*.
- 59 CUT **pak-*, Ket *haɣej*, Yug *fagej*, Arin *it-päkuju* 'I cut.' Cf. Basque *ebaki* ~ *ebagi*.
- 60 DAUGHTER/SON **puʔ-n* 'daughter,' **puʔ-b* 'son,' Ket *huʔn* 'daughter,' *hiʔp* 'son,' Yug *fuʔn* 'daughter,' *fiʔp* 'son,' Kott *fun* 'daughter,' *fup* 'son.' Cf. Proto-Abkhaz-Tapant **pa* 'son,' Proto-Abkhaz-Adyg **pə-χ^wʌ* 'daughter.' Bengtson (pers. comm.) compares these forms with Basque *-pa* ~ *-ba* in forms such as *alha-ba* 'daughter,' *a-hiz-pa* 'sister,' *ne-ba* 'brother.'
- 61 DAY **xi(?)g*, Ket *iʔ*, Yug *ih*, Kott *īg* ~ *ix*, Arin *ji*, Pumpokol *ha*, Assan *i* ~ *ī*.
- 62 DAY(TIME) **χōŋ*, Ket *qōŋ*, Yug *xō^hŋ*, Kott *hōnaŋ* 'recently,' Pumpokol *xaŋ-ga-cedin*. Bengtson (1991a: 98) adds Basque *e-gun*, Proto-(North) Caucasian **G^wem-tʌ*, Burushaski *gōn* 'dawn,' and Proto-Athabaskan **d^lwen*.
- 63 DEEP **pōqe*, Ket *hōR(u)*, Yug *fō^hx*, Kott *fōge* ~ *p^hōge*.
- 64 DEER **sēr₁e*, Ket *śēʌə*, Yug *sēr*, Kott *šeli* ~ *šele*, Arin *sin* (< **sil(ʌ)n*), Pumpokol *salat*. Cf. Proto-(North) Caucasian **wans^wira* 'deer, aurochs,' Na-Dene: Galice *silii* ~ *selii* 'doe.'

- 65 DIE/DEATH *qɔ-, Ket qɔ-deŋ, Yug xɔ-dəŋ, Kott xa ~ k^ha 'death,' Arin in-qo 'dead,' Pumpokol ka-donɖu 'dead.' Cf. Na-Dene: Haida k'ut'ahl ~ koo-tulh 'die, dead,' Eyak kous 'dies.'
- 66 DIRT *dɬr-, Kott taran. Cf. Proto-Dagestanian *t^hərɬ, Burushaski ther 'dirty.'
- 67 DO *wɬ-, Ket bēri, Yug bē^ht', Kott ba-ttaŋ, Arin ša-pi-te 'I do.' Cf. Na-Dene: Haida 'waa 'do so,' wa 'do,' Eyak wau-gung 'do.'
- 68 DOG *čip ~ *čib, Ket tīp, Yug čip, Kott al-šip, Arin il-čap. Cf. Proto-Dagestanian *č^hirpɬ 'bitch,' Proto-Andi *čiba.
- 69 DOOR₁ *ʔefk-, Ket ɛllə, Yug ɛrfɔx, Pumpokol elxan.
- 70 DOOR₂ *ʔajtol, Kott at^hol, Arin ejtol, Assan atol.
- 71 DRY *qɬj-, Ket tɔ-Rai-ŋ, Yug tɔ-xɔiŋ, Kott xuj-ga, Arin qoija, Pumpokol ič-koj-ŋa, Assan xuj-ga. Cf. Na-Dene: Haida k'a.
- 72 DUCK₁ (n.) *tɔq, Ket tɔRə, Yug tɔ^hx 'golden-eye,' Kott al-t^hax 'a kind of duck.'
- 73 DUCK₂ (n.) *ʔalg-, Ket aɬgə, Kott agaŋa 'mallard.'
- 74 EAGLE *dɬɬg-, Ket diʔ, Yug diʔ, Kott tage. Cf. Proto-(North) Caucasian *leq^wIa 'name of a large bird,' Proto-Tibeto-Burman *laŋ ~ *lak 'falcon, hawk,' Old Chinese *laŋ ~ t^laŋ 'hawk.' Bengtson (pers. comm.) adds Na-Dene: Haida lgo 'heron' and Tlingit ləq' 'heron, crane.'
- 75 EAR *ʔɔqtɬ ~ *ʔɔgde, Ket ɔgde, ɔqtən 'ear-rings,' Yug ɔxtiŋ, ɔgdɔniŋ 'ear-rings,' Arin utkenoŋ, Pumpokol atkin. Cf. Proto-Andi *han-k'it'a ~ *han-t'ik'a, Na-Dene: Tlingit ʔax 'hear.'
- 76 EARTH *baʔŋ, Ket baʔŋ, Yug baʔŋ, Kott paŋ, Arin peŋ, Pumpokol biŋ.
- 77 EAT *siɡ-, Ket sī, Yug sī, Kott šig 'food,' Arin ša-n, Pumpokol sogo. Starostin (1984: 23) compared the Proto-Yeniseian form with Proto-Sino-Tibetan *d^ʒhǎH and later (1989a: 64) added Proto-(North) Caucasian *d^ʒaHV 'drink.' Bengtson and Blažek (1992) compare these forms with Burushaski šī-.
- 78 EGG/FISH EGGS *jeŋ ~ *jɔŋ, Ket ɔŋ-diś 'fish eggs,' ēŋ 'eggs,' Yug ɔŋ-dis 'fish eggs,' eŋ 'egg,' Kott d'anān 'fish eggs,' Arin ujnun 'fish eggs,' aŋ 'egg,' Pumpokol taŋaŋ 'egg,' Assan anaŋ 'fish eggs.' Bengtson and Blažek (1992) compare the Proto-Yeniseian form with Proto-(North) Caucasian *d^liŋwV 'roe,' Burushaski tiŋ 'egg,' and Proto-Sino-Tibetan *di 'egg.'
- 79 ELBOW/JOINT *gid, Ket uɬ-git, Yug uɬ-git, Assan کنار-xat-ken 'elbow,' pul-gat-ken 'tibia.' Cf. Proto-Dagestanian *q^wIant^hɬ 'elbow, knee,' Basque ukondo 'elbow,' Na-Dene: Eyak guhd 'knee,' Sarsi gūd 'knee, elbow,' Kutchin -gwod 'knee,' Coquille g^wad 'knee,' Hupa got' 'knee,' Navajo gòd 'knee.'

- 80 ELK **gālja*, Ket *qājə*, Yug *xā^hj*, Kott *kōja*, Arin *o-ǵaj-ši*, Pumpokol *xaju*, Assan *koja* 'deer.'
- 81 EMPTY **gūj*, Ket *qūjə*, Yug *xū^hj*, Kott *koi*.
- 82 ERMINE **kulap*, Ket *kulep*, Yug *kulep*, Kott *hulup*, Arin *kulep*.
- 83 EVENING **bis*, Ket *bīs*, Yug *bis*, Kott *pīs*, Arin *pis*, Pumpokol *bič-idin*, Assan *pijaga*. Cf. Proto-(North) Caucasian **basa* 'night, evening,' Ingush *bijsa* 'night,' Ubykh *z^{wa}-psə* 'evening.' Bengtson and Blažek (1992) add Burushaski *basa* 'halting for the night; night or day (as a measure of time).'
- 84 EXCREMENT/DIRT **poʔq*, Ket *həʔq*, Yug *fəʔq*, Kott *phōk* ~ *fōk* 'excrement,' *phago* ~ *fago* 'dirt.' Cf. Proto-Dagestanian **p^hiHi* *lχ^wʌ* 'diarrhea, feces.'
- 85 EYE **de-s*, Ket *dēs*, Yug *des*, Kott *tīs*, Assan *teš*, Arin *tieŋ*, Pumpokol *dat*. Cf. Proto-(North) Caucasian **ʔ^wilhi*, Na-Dene: Kutchin *ə-nde*, Hare *e-d^{ja}*, Galice *-daai*, Chiricahua *ⁿdáà*.
- 86 FACE **bat(t)-*, Ket *bāt* ~ *battat*, Yug *bāt* ~ *battat*. Cf. Proto-Dagestanian **mət^ʔʌ*.
- 87 FACE/CHIN **bunč-*, Kott *punʃol* ~ *punčol* 'chin,' Arin *pinʃal* 'chin,' Assan *punčola* 'cheek.'
- 88 FAT (n.) **giʔd*, Ket *kiʔt*, Yug *kiʔt*, Kott *kīr*, Arin *ki*. Cf. Basque *gizen*.
- 89 FATHER **ʔob*, Ket *ōp*, Yug *op*, Kott *ōp*, Arin *ipá*, Pumpokol *ab*. Cf. Proto-(North) Caucasian **ʔopʌ-*, Proto-Tibeto-Burman **ba*, Old Chinese **ba*, Burushaski *baba* 'father (in royal circles),' Nahali *aba* ~ *ba*. Kuiper (1962: 58) regards the Nahali form as a borrowing from Kurku (Munda).
- 90 FATHOM (2.13 meters) **χän*, Ket *qāñ*, Yug *xan*, Kott *hen*.
- 91 FIELD **kʌb-*, Ket *ɔ-γup*, Kott *hīp-ēg*, Arin *kaba* ~ *qabi*.
- 92 FIR/SPRUCE **diñe*, Ket *dīñ*, Yug *dīn*, Kott *tīni*, Arin *tin*, Pumpokol *dīñe*, Assan *tin*. Bengtson and Blažek (1992) compare the Yeniseian forms with Burushaski *thōn* 'coriander' and Proto-Sino-Tibetan **taŋ* 'pine.'
- 93 FIRE **boʔk*, Ket *boʔk*, Yug *boʔk*, Pumpokol *buč*. Cf. Burushaski *pfu*, Nahali *āpo*.
- 94 FISH TRAP **dōb-*, Ket *dōvə* ~ *dōbə*. Cf. Proto-Lezghian **t'ap'*.
- 95 FIST **kʌŋq-*, Ket *kōRə* ~ *kōq*, Yug *kū^hx*, Kott *haŋkan*. Cf. Proto-Dagestanian **χīnk^wi*. Bengtson (pers. comm.) adds Eyak *guʔk'*.
- 96 FIVE **qāka*, Ket *qāk*, Yug *xak*, Kott *k^hēgä*, Arin *qaga*, Pumpokol *xej-laŋ*. Bengtson (pers. comm.) compares these forms with Eyak *q'əq'* 'fist.'
- 97 FLEE **čaq-*, Ket *təq-tət*, Yug *čattat*, Kott *čagant^hak*.

- 98 FLOUR₁ **talk*_Λ*n*, Ket *tallin*, Assan *talkan*.
- 99 FLOUR₂ **q*_Λ(?*ʔ*)*r* ~ **q*_Λ(?*ʔ*)*j*, Kott *u-xēi*. Cf. Proto-Dagestanian **χ*^w*ʔar*_Λ, Proto-Nax **Hor-*.
- 100 FLY/GNAT **t*_{it}-, Ket *tīt*, Yug *tīt*, Kott *al-thītega* 'ant.' Cf. Proto-Dagestanian **t*_{əmt}'*o*, Proto-Nax **t*_{ot}'.
- 101 FOG **q*_Λ?*ŋ*-, Yug *xoaŋ*. Cf. Proto-(North) Caucasian **k*^w*im*(*h*)_Λ ~ **m*_{ik}^w_Λ 'cloud, fog,' Proto-Tibeto-Burman **mūk*, Old Chinese **mōk* 'drizzle.'
- 102 FOOT₁ **ki*_{ʔs}, Ket *kiʔs*, Yug *kiʔs*. Cf. Proto-(North) Caucasian **k*^w_Λ*č*'*a* 'foot, paw,' Na-Dene: Tlingit *k*'*os* ~ *q*'*os*, Eyak *q*'*aš* ~ *kuš*, Sarsi *kàʔ*, Carrier *-ke*, Galice *-kiʔ*, Navajo *-kèèʔ*, Kiowa Apache *-kii*.
- 103 FOOT₂ **bul*, Ket *bū*_Λ, Yug *bul*, Kott *pul*, Arin *pil*. Cf. Proto-(North) Caucasian **māHāt*^{lh}_ə '(toe-)nail, hoof,' Sino-Tibetan: Tibetan *bol* 'upper part of the leg,' Old Chinese **bəj* (< **bəl*) 'calf of the leg.'
- 104 FOUR **sika*, Ket *śik*, Yug *sik*, Kott *šēgā*, Arin *šaga*, Pumpokol *cia-ŋ*.
- 105 FOX **kəq*_Λ*n*, Ket *kā*_n, Yug *kaxin*, Kott *agan*.
- 106 FROG **x*_{iʔr}-, Ket *λʔl*, Yug *λʔl*, Arin *kere*. Cf. Basque *igel*, Proto-(North) Caucasian **q*^w_Λ*raq*'_Λ, Burushaski *gur-quts* ~ *γur-kun*.
- 107 FULL **ʔute*, Yug *ūt*, Kott *ūti*. Cf. Proto-(North) Caucasian **-oc*'*a*.
- 108 GIVE **qəj*-, Ket *qadəm*, Yug *xad'iq-fīt* 'give back,' Arin *koja-pelä* 'I give.' Cf. Na-Dene: Haida *gijuu* 'give away.'
- 109 GLUE **piʔt*, Ket *hiʔt*, Yug *fiʔt*, Ket *fit*. Cf. Proto-Dagestanian **p*^h*inč*^w_Λ 'resin, tar,' Proto-Nax > Chechen *mutta* 'sap.'
- 110 GO **heja*_ŋ, Ket *ēje*_ŋ, Yug *ejin*, Kott *heja*_ŋ. Cf. Basque *j-oan*. Starostin (1984: 25) compares the Yeniseian forms with Proto-East Caucasian **ʔ*_Λ?*w*_Λ-*n*- and Proto-Sino-Tibetan **ʔ*^w_ǎ(*ŋ*), Old Chinese **w*(*h*)*áŋ*.
- 111 GOOD **haq*-, Ket *aq-ta*, Yug *ax-ta*, Kott *hag-ši*, Arin *bergar-iktu*.
- 112 GOODS (furs) **řəq*-, Ket *ləq*, Yug *ləx*.
- 113 GOOSE **čem*-, Ket *tēm*, Yug *čem*, Kott *šame*, Arin *sam*, Pumpokol *xam*, Assan *šame*.
- 114 GRASS **g*_Λ*re*, Kott *keri*. Cf. Proto-(North) Caucasian **q*_Λ*l*_Λ ~ **q*_Λ*l*_Λ, Nahali *jhara*. According to Kuiper (1962: 81), the Nahali form is borrowed from Kurku (Munda).
- 115 GUEST **ja*-*ŋ*, Kott *čəŋ*. Cf. Proto-(North) Caucasian **č*^w_Λ(*H*)_Λ.
- 116 GUTS **piʔi*_Λ, Ket *hī*_Λ, Yug *fi*_Λ, Arin *phor-ga* 'belly.' Cf. Proto-Dagestanian **peHer*^l_Λ, Proto-Nax **b*_{fara}, Proto-Tibeto-Burman **pik* 'entrails, guts.'

- 117 HAIL *baʃbaʎ, Ket baʃbɛt, Kott kojpat, Arin polpien. Cf. Na-Dene: Mattole bad.
- 118 HAIR *cəŋe, Ket təŋə, Yug čəŋ, Kott heŋai, Arin ɟagaŋ, Pumpokol xɪŋa. Cf. Proto-Dagestanian *c'em(H)ʌ 'eyebrow,' Proto-Tibeto-Burman *tsam, Old Chinese *srām (< *r-sām).
- 119 HALF₁ *su-, Yug sū-, Kott šu-, Pumpokol tu. Cf. Proto-(North) Caucasian *hamc'ü.
- 120 HALF₂ *ʔa(ʔ)l, Ket a(ʔ)ʌ, Yug a(ʔ)l, Kott āl-ix 'noon, midday.' Cf. Proto-(North) Caucasian *-etʰi, Proto-Tibeto-Burman *lāy 'center, middle.' Bengtson and Blažek (1992) add Basque *erdi* 'half, middle,' Proto-Sino-Tibetan *tʰay 'center,' Burushaski *āto* 'two,' and Eyak *laʔd* 'two.'
- 121 HAND *paɡ-, Ket haŋn, Arin pʰiaga. Cf. Burushaski baɣu 'double armful,' Nahali bok(k)o.
- 122 HE *dʌ, Ket da- ~ di-, Yug da- ~ di-. Cf. Proto-Dagestanian *tʰʌ 'that,' Tibeto-Burman: Burmese *thəw* 'this,' Old Chinese *tə 'this, he,' Nahali eʔe(y) ~ eta-re 'he,' Na-Dene: Haida *dei* 'just that way,' Tlingit *de* 'now,' Slave *tī* 'this,' Chiricahua *dí* 'this thing.'
- 123 HE/SHE *wʌ, Ket bū, Yug bu, Assan ba-ri 'he,' Arin au 'he.' Cf. Proto-(North) Caucasian *mʌ 'this, that,' Na-Dene: Haida *wūn-a-sa* 'he,' *wa-* 'that,' Tlingit *ū* 'he,' *we* 'that,' Chasta Costa *yū* 'that one.'
- 124 HEAD₁ *ciʔɡ-, Ket tiʔ, Yug čiʔ, Kott takai, Arin ke-dake. Cf. Proto-Abkhaz-Adyg *sɟʌ, Na-Dene: Tanaina *tsiʔ*, Beaver *tsiiʔ*, Galice *-siiʔ*, Navajo *-tʰiiʔ*.
- 125 HEAD₂ *kərga-, Ket kaɟga, Arin kolkā, Pumpokol kolka. Cf. Proto-Lezghian *kūr̄k 'skull,' Lak *kʷark* 'top, head.'
- 126 HEART *pu-, Ket hū, Yug fu, Kott pʰui ~ fui 'insides,' Pumpokol pfu.
- 127 HEAVY *səɡ-, Ket sʌ, Yug sə ~ səu, Kott šik-ŋ, Arin šoga, Assan šuoga.
- 128 HEEL *saɟa(-dʒʌ), Ket sʌt, Yug sət ~ səut, Kott šugaiči, Arin *i-žege-n*. Cf. Proto-Dagestanian *solqʷʌ ~ *qʷʌlʌ 'heel, foot.' Bengtson (1991a: 92) adds Burushaski *šoq* 'sole (of boot).'
- 129 HIGH *tiŋɡir-, Ket tiŋ(g)əʌ, Yug tiŋɡil, Pumpokol tokar-du.
- 130 HOLE *χuχ, Ket qūk, Yug xuk, Kott huk. Cf. Na-Dene: Haida *k'yu* 'door,' Tlingit *k'úqʷ*.
- 131 HORN *χɔʔ, Ket qɔʔ, Yug xɔʔŋ. Cf. Proto-(North) Caucasian *qʰwä(hʌ), Proto-Tibeto-Burman *kruw, Old Chinese *qrō-k.

- 132 HORSE **kuʔs*, Ket *kuʔs* 'cow,' Yug *kuʔs*, Kott *huš*, Arin *kus*, Pumpokol *kut*. Cf. Proto-Dagestanian **k^wač^wʌ* 'mare.'
- 133 HOUSE/TENT **xuʔs*, Ket *quʔs*, Yug *xuʔs* 'tent,' Kott *hūs* 'tent,' Arin *kus*, Pumpokol *hu-kut*. Cf. Proto-(North) Caucasian **q^wʌrca* 'house, dwelling.'
- 134 HUNDRED **jus*, Arin *jus*, Pumpokol *uta-msa*.
- 135 HUNGER **ɠɔɠant*, Ket *qɔt*, Yug *xɔxat*, Kott *kajante*, Arin *qogāt* 'hungry.'
- 136 HUSBAND **ca(n)t-*, Ket *tēt*, Yug *čet*, Kott *hat-kīt*, Arin *kintej*, Pumpokol *ils-et* (< **ils-xet*).
- 137 I **ʔad^z*, Ket *āt*, Yug *at*, Kott *ai*, Arin *aj*, Pumpokol *ad*. Cf. Proto-(North) Caucasian **zo*, Burushaski *jē ~ ja*, Nahali *jō ~ jūō*.
- 138 IDOL **guʔus*, Ket *kūs*, Yug *kūs*. Cf. Proto-Dagestanian **k^{hw}ič^hʌ* 'form, appearance, look,' Proto-Nax **kust* 'figure, appearance.'
- 139 INTERROGATIVE PRONOUN ROOT **wir₁*, Ket *biʌa* 'how,' *biʌeš* 'where,' Yug *bire* 'how,' *bires* 'where,' Kott *biʌäj* 'what,' *bili* 'where.' Cf. Proto-Dagestanian **mʌ* and Proto-Nax **mʌ*. Bengtson and Blažek (1992) add Burushaski *men* 'who,' *a-min* 'which.'
- 140 INTESTINE (SMALL) **tūʌ*, Ket *tuʌi*, Yug *tū^hʌ*, Kott *t^hutul*, Arin *šodoronj*.
- 141 IRON **ʔeχʌ*, Ket *ē*, Yug *ej*, Pumpokol *ag*. Cf. Proto-(North) Caucasian **rit^hwʌ* 'name of a metal.'
- 142 JAW **piŋkad^z*, Ket *hiɣat*, Yug *figači*, Arin *piŋaiŋ* 'lip,' Pumpokol *pinet* 'chin, cheek.'
- 143 KNEAD **ʌoŋ-*, Ket *ʌoŋ-dəŋ*, Yug *ʌoŋ-d'aŋ*.
- 144 KNEE **bat-*, Ket *bat-puʌ*, Yug *bat-pʌl*, Assan *pul-patap* 'metatarsus,' Arin *patas*. Cf. Proto-Dagestanian **porč^hʌ* 'thigh, paw,' Proto-Tibeto-Burman **put(s)*, Old Chinese **pət ~ pit* 'knee-cap.'
- 145 KNIFE **doʔn*, Ket *dɔʔn*, Yug *dɔʔn* Kott *ton*, Arin *ton*. Cf. Proto-(North) Caucasian **wasünʌ*.
- 146 LAKE **deɠ*, Ket *dɛʔ*, Yug *dɛʔ*, Kott *ūr-tēg*, Arin *kur-tük*, Pumpokol *dānniŋ*. Cf. Na-Dene: Tlingit *da* 'to flood,' Eyak *taʔ* 'into water.'
- 147 LAND/SOIL **su*, Kott *šu*. Cf. Proto-(North) Caucasian **H^wenš^wi* 'land, clay.'
- 148 LARCH **seʔs*, Ket *šeʔs*, Yug *seʔs*, Kott *šet*, Arin *čit*, Pumpokol *tag*. Cf. Proto-(North) Caucasian **cacʌ* 'thorn, burr.' Bengtson (1991b: 133) adds Basque *sasi* 'bramble, thicket' and Burushaski *čhaš* 'thornbush, thorns.'
- 149 LAUGH **jāqʌ-*, Ket *dāRə*, Yug *d'ā^hx*, Kott *čake*, Arin *soja-kean* 'I laugh,' Pumpokol *jai-či-du* 'I laugh.'

- 150 LEAF *jāpe, Ket ā, Yug āp, Kott d'ipi, Arin ipon, Pumpokol (xogon-)dipun. Cf. Proto-(North) Caucasian *t^hepi, Proto-Tibeto-Burman *lap, Old Chinese *lap. Bengtson (pers. comm.) adds Burushaski tap (< *ltap(V), preserved in du-ltap-as 'wither').
- 151 LIGHT (adj. & n.) *gəʔn-, Ket kλʔn, Yug kλʔn, Kott kanaŋ-ičiban 'lightning.' Cf. Proto-Dagestanian *(HA)k^{hw}enλ, Old Chinese *k^wāŋ.
- 152 LIGHT/CHEAP *tor-, Ket tōλ-git 'cheap,' Kott t^hui 'light, cheap,' Arin tütelä 'light.'
- 153 LIP *fɔn, Ket λōn, Yug lon, Kott d'an, Arin e-tan, Assan anag (< *anaŋ).
- 154 LIVER *seŋ, Ket sēŋ, Yug seŋ, Arin šin-trun 'entrails.' Cf. Proto-(North) Caucasian *c^wāmʔi 'bile, anger,' Proto-Tibeto-Burman *m-sin, Old Chinese *sin 'bitter.' Bengtson (1991b: 131) adds Basque be-ha-zun 'bile, gall,' Burushaski čhemɪ-liŋ 'bitter, poisonous,' and suggests that possibly Eyak -sa^ht and Proto-Athabaskan *-sədʔ belong here as well.
- 155 LOG *bāk, Ket bāŋə, Yug bāk, Kott pēg. Cf. Proto-(North) Caucasian *pənō(I)u 'pole, stick, stake, post,' Old Chinese *pāk 'pole, post, column.'
- 156 LONG *ʔux-, Ket ug-də, Yug ug-də, Kott ui, Arin u-ta. Cf. Proto-(North) Caucasian *-uq^h(I)a(-nλ) 'long, big, tall,' Old Chinese *kāw 'tall,' Tibeto-Burman: Burmese khau-h 'protrude.'
- 157 LOW *pitam-, Ket hītim, Yug fitim, Pumpokol fidam-du.
- 158 LOW/BELOW *kan-, Kott hāna 'down,' hānal 'below, low,' Arin xamartu 'low.' Cf. Proto-(North) Caucasian *ʔot^honu 'bottom.'
- 159 LUNGS *sisal-, Kott šičātn, Arin šisali. Cf. Proto-(North) Caucasian *c'λc'λ 'kidney.'
- 160 MALE *iχ(λ), Ket f 'male deer,' Yug iʔk 'male, male polecat,' Kott ig 'little man,' Arin au 'male.'
- 161 MAN₁ *keʔt, Ket kēʔt, Yug kēʔt, Kott het ~ hit, Arin kit, Pumpokol kit, Assan hit. Cf. Proto-Andi *k^wint'a 'man, husband, male,' Proto-Nax *k'anat 'boy, lad,' Na-Dene: Tlingit qah ~ kah 'man,' Eyak qaʔ ~ kha 'husband.' Bengtson (pers. comm.) suggests that perhaps Nahali kalto belongs here.
- 162 MAN₂ *pixe, Ket hŕə, Yug fik, Kott fi, Arin pa-nalikip.
- 163 MEADOW *ʔog-, Ket ū, Yug ou, Kott ōx, Arin jujuŋ 'grass.' Cf. Proto-Dagestanian *ʔenq^{hw}ɪλ 'meadow, plot of land.'
- 164 MEAT *ʔise, Ket iś, Yug is, Kott iči, Arin is. Cf. Proto-(North) Caucasian *ʔəmc^ho 'bull, ox.'

- 165 MILK/NIPPLE **de(?)n*, Kott *ten* 'nipple,' Arin *teḡul* 'milk,' Pumpokol *den*. Cf. Proto-(North) Caucasian **šinwλ* 'milk, udder.' Bengtson (pers. comm.) adds Basque *esne* 'milk.'
- 166 MITTEN **bɔq-*, Ket *bōq*, Yug *bɔxɔn*, Kott *pagan*.
- 167 MOON *(*ʔλ*)*suj*, Kott *sui*, Arin *ešuj*, Pumpokol *tuj*. Cf. Proto-(North) Caucasian **wəməc*'o 'moon, month,' Old Chinese **ŋ^wat* 'moon.'
- 168 MORNING **pλk-*, Ket *higem*, Pumpokol *cil-paga*. Cf. Proto-Dagestanian **pəkλ* 'morning, dawn, dusk.' Bengtson (pers. comm.) adds Basque *bigar* 'tomorrow.'
- 169 MOTHER **ʔama*, Ket *ām*, Yug *am*, Kott *āma*, Arin *amä*, *á-amä* 'my mother,' Pumpokol *am*, Assan *ama*. Cf. Basque *ama*, Burushaski *māma*, Nahali *māy*, Na-Dene: Eyak *amma*, Navajo *má*. The Nahali form is considered by Kuiper (1962: 90) a borrowing from Kurku (Munda).
- 170 MOUNTAIN₁ **ʔiʔj*, Ket *λiʔt*, Yug *liʔt'*, Kott *d'ī*, Assan *jii*.
- 171 MOUNTAIN₂ (WOODED) **qäʔj*, Ket *qaʔj*, Yug *xaʔj* 'wooded mountain,' Kott *xē-lēx* 'mountain ridge,' Arin (*ena-*)*haj* 'forest,' Pumpokol *ko-nnoŋ*. Cf. Proto-Lezghian **χ^waʔ* 'mountain,' Proto-Nax **Hawχē* 'shady slope of a mountain,' Old Chinese **kh^wə* 'hill.'
- 172 MOUSE **jūta*, Ket *ūt*, Yug *ūt*, Kott *d'ūta*, Pumpokol *ute*. Cf. Proto-(North) Caucasian **ja^{hw}e* 'squirrel, badger, mouse,' Old Chinese **lu-s* (< **ju-s*) 'weasel,' Tibetan *jos* 'hare.'
- 173 MOUTH **χowe*, Ket *qō*, Yug *xo*, Kott *hōpi*, Assan *xoboŋ*. Starostin (1984: 24) compares the Yeniseian forms with Proto-Sino-Tibetan **Khō(w)H* and Proto-(North) Caucasian *k^wəiʔV*. Bengtson and Blažek (1992) add Basque *a-ho*.
- 174 MUSHROOM **borba*, Ket *bɔλba*, Yug *bɔlba*, Arin *penbe-tu*.
- 175 MY **b-* ~ **ʔab-*, Ket *āp* ~ *ābə*, *ba-* ~ *bo-* (first-person marker on verbs). Cf. Proto-Dagestanian **na* 'I,' Proto-Tibeto-Burman **ŋa* 'I,' Old Chinese **ŋa* 'I.'
- 176 NAME **ʔig*, Ket *ī*, Yug *i*, Kott *ix*, Pumpokol *i*. Cf. Burushaski *-ik*. Bengtson and Blažek (1992) add Chipewyan (Athabaskan) *-yeʔ* ~ *-yiʔ* 'to be named.'
- 177 NAVEL **tir-* ~ **tīl-*, Ket *tīλ*, Yug *tīl*. Cf. Proto-Dagestanian **d^zonHu*, Proto-Nax **c'an-k'u*, Old Chinese **d^zəj*.
- 178 NECK₁ **pujm-*, Kott *fuihur* ~ *p^huimur*, Arin *pemä*. Cf. Burushaski *būi* 'shoulder-blade.'
- 179 NECK₂ **kəqənt-*, Ket *kəqti*, Yug *kəxti*, Kott *agantan* 'collar, neck.' Cf. Basque *kokot*.

- 180 NEEDLE *ʔiʔn, Ket *iʔn*, Yug *iʔn*, Kott *in* ~ *in*, Arin *in*. Cf. Proto-Dagestanian *ʕima 'awl.'
- 181 NET *pəʔŋ, Ket *həʔŋ*, Yug *həʔŋ*, Kott *fun*, Arin *pen*.
- 182 NETTLE *kita, Ket *kītn*, Yug *kitn* 'nettle, hemp,' Kott *hīta* 'hemp.' Cf. Proto-(North) Caucasian *q^hIūč^hu 'nettle, grass.'
- 183 NEW *tur- ~ *tul, Yug *tul-im*. Cf. Proto-(North) Caucasian *c^hānhā, Proto-Tibeto-Burman *sin, Old Chinese *sin. Alternatively, the Proto-Yeniseian form might be compared with Proto-Tibeto-Burman *sar 'new, fresh' and Old Chinese *sar 'fresh.'
- 184 NIGHT *sig, Ket *sī*, Yug *si*, Kott *sīg*, Arin *saj*, Pumpokol *teč*. Cf. also Proto-Yeniseian *sam- 'sleep' below.
- 185 NIGHT (SPEND THE —) *sagar₁, Ket *sāl*, Yug *sā^hr*, Kott *šagal* 'spending the night,' *ha-čāgal* 'spend the night,' Pumpokol *tōl* 'night.' Cf. Basque *gau* 'night,' Na-Dene: Haida *gal* 'night,' Eyak *χə^t* 'night,' Carrier *ye^t* 'night,' Kato *kaⁱh* 'night passes,' Chipewyan *xi^t* 'darkness,' Navajo *di-^t-xi^t* 'black.'
- 186 NINE *jum-, Kott *čum-nāga*. Cf. Proto-(North) Caucasian *ʕarc^wam-.
- 187 NIT *jog- ~ *jok, Ket (ʌγin-)ɔk, Yug (*etiŋ*-)āk, Kott *d'oga*. Cf. Proto-Dagestanian *q^hʌ(I)jʌ > Dargwa *qⁱ*.
- 188 NO/NOT₁ *wə-, Ket *bə-n*, Yug *bə-n*, Kott *mo-n* (< *bo-n), Arin *bo-n*, Pumpokol *a-mu-t* (< *a-wu-n-t). Cf. Proto-(North) Caucasian *ma, Proto-Tibeto-Burman *ma, Old Chinese *ma, ?Burushaski *bē*, ?Nahali *beko* 'no,' *be^{te}* 'not,' *biji* 'not.' The Nahali form is considered by Kuiper (1962: 62) a borrowing from Kurku (Munda).
- 189 NO/NOT₂ *ʔat ~ *ta-, Ket *āt* 'not,' *tāŋ* 'no,' Yug *ata* 'not,' *tāŋə* *bə^s* 'not at all.' Cf. Proto-Dagestanian *tʌ, Proto-Tibeto-Burman *ta (prohibitive particle), Nahali *ho^t* (used with the past tense). Kuiper (1962: 77) suggests that the Nahali form is a Munda borrowing.
- 190 NOSE₁ *ʔolk-, Ket *ɔlin*, Arin *arquj*.
- 191 NOSE₂ *xaŋ, Kott *aŋ*, Pumpokol *haŋ*.
- 192 NUT *im, Ket *im*, Yug *im*, Kott *im*, Arin *im*.
- 193 OLD/DECREPIT *sin, Ket *sin*, Yug *sin*. Cf. Proto-(North) Caucasian *sūno 'year,' Proto-Tibeto-Burman *sniŋ 'year,' Old Chinese *nīn (< *(s)nīŋ) 'year,' Na-Dene: Tlingit *šān* 'old person,' Tlatskanai *sen* 'old man,' Navajo *sání* 'old man.' Bengtson (pers. comm.) adds Burushaski *šini* 'summer.'
- 194 ONE *χu-sa, Ket *qūs* (inan.), Yug *xus* (inan.), Kott *hūča*, Arin *khuzej* ~ *qusej* ~ *kusa*, Pumpokol *xuta*. Cf. Proto-(North) Caucasian *c^hə, Proto-Tibeto-Burman *it, *kat (< *qac), Old Chinese *ʔit (< *ʔic).

- 195 ONION *guwurkaŋ-, Kott kuburgenañ, Arin kuburgan, Assan kabirgina.
- 196 OTTER *täχar, Ket tāl, Yug tār, Kott thēgār. Cf. Proto-Dagestanian *tend^lwa ~ *teng^w 'weasel, marten,' Basque urtxakur.
- 197 OUTSIDE *hər₁-, Ket ʌʌa, Yug ʌrej, Kott hili. Cf. Burushaski hōlum, Nahali bahare. Kuiper (1962: 61) considers the Nahali word a borrowing from Kurku (Munda).
- 198 OWL/HAWK *kaŋ-, Kott hikei-še 'owl,' Arin kak 'hawk,' Pumpokol xagam-kolka 'owl.'
- 199 PALM *battɔp ~ *pattɔp, Ket battop, Ko fatap ~ p^hatap.
- 200 PATH/ROAD *qoʔt, Ket qɔʔt, Yug xɔʔt 'path,' Arin kat ~ kut, Pumpokol koat 'road.' Cf. Proto-Dagestanian *ġ^wat'ʌ 'street, passage.' Nikolaev (1991: 54) compares these forms with Proto-Eyak-Athabaskan *ged 'road,' Hare -giér-eʔ 'road.'
- 201 PENIS/TESTICLES *gaŋs-, Kott kančal 'testicles,' Pumpokol kutte 'penis.' Cf. Proto-Dagestanian *k'əlč'ʌ 'penis, vulva,' Burushaski -γūš 'vagina,' Na-Dene: Eyak guč, Sarsi γīdzáʔ.
- 202 PEOPLE *jeʔ-ŋ, Ket dɛʔŋ, Yug d'ɛʔŋ, Kott čēāŋ. Cf. Proto-(North) Caucasian *č^hiŋ(i) 'person, man,' Na-Dene: Haida e-tliŋga 'man,' Tlingit t'inkit 'people.'
- 203 PERCH (fish) *təʔG-, Ket tʌʔ, Yug tʌʔ, Pumpokol tou, Assan tuga.
- 204 PIKE *χūja, Ket qūri, Yug xū^ht', Kott hūja, Arin quj, Pumpokol kod'u, Assan huja.
- 205 PINE TREE *ʔej-, Ket ēj, Yug ej, Kott ei, Arin aja, Assan ej.
- 206 PLURAL SUFFIX₁ *-ŋ, Ket -ŋ, Yug -ŋ, Kott -ŋ. Cf. Proto-Dagestanian *-ma.
- 207 PLURAL SUFFIX₂ *-nʌ, Ket -n ~ -ñ, Yug -n, Kott -n. Cf. Proto-Dagestanian *-nʌ, Proto-Tibeto-Burman *-n (collective plural).
- 208 POINT *saʔr₁, Ket śaʔl, Yug saʔr, Kott śal. Cf. Proto-(North) Caucasian *č'əwli 'arrow, point,' Burushaski išāra ɛt 'point out.'
- 209 POLE (of a tent) *həgaŋe, Ket ʌŋn, Yug ʌŋnīŋ, Kott haġini.
- 210 PRINCE *χij(e), Ket qīj, Kott hīji, Arin bi-khej. Cf. Proto-Abkhaz-Adyg *(a)χə.
- 211 RABBIT *ʔaχ ~ *ʔak, Yug ak 'jumping hare.' Cf. Proto-(North) Caucasian *rʌġ^wʌ 'squirrel, marten, weasel, mouse,' Proto-Tibeto-Burman *rwak 'rat,' Na-Dene: Eyak Gəχ, Slave gah, Tsetsaut qax, Navajo gaʔ.
- 212 RAIN *xur ~ *xur-es, Ket uʌeś, Yug ures, Kott ur, Arin kur, Pumpokol ur-ait. Cf. Basque euri, Burushaski hərāl̥t.

- 213 REINS/BRIDLE **künd-*, Ket *kūndaŋin* 'reins,' Arin *qonda* 'bridle.'
- 214 RELATIVE ADJECTIVE SUFFIX *-*tu-*, Ket *-tu-*, Yug *-tu-*. Cf. Proto-(North) Caucasian *-*tʷi* (adjective suffix).
- 215 RIB **ʔuʌadʷ*, Ket *uʌet*, Yug *uʌat*, Kott *ulai*.
- 216 RIVER **ses*, Ket *sēs*, Yug *ses*, Kott *šēt*, Arin *sat*, Pumpokol *tataŋ*, Assan *šet*. Cf. Na-Dene: Haida *sī(s)* 'ocean,' Eyak *šī* 'creek, stream,' Galice *siskāā* 'ocean.'
- 217 ROAD **χiχ*, Ket *qik*, Yug *xik*, Kott *hek*.
- 218 ROOT₁ **čij-*, Ket *tīri*, Yug *tīʰt'*, Pumpokol *keɖiŋ*, Assan *i-čičan*. Cf. Burushaski *tshiriš*.
- 219 ROOT₂ **tempʌl*, Kott *tʰempul*, Arin *t'ēmbirgaŋ* ~ *tenbir*.
- 220 ROPE₁ **ʔāŋ-*, Ket *āŋə*, Yug *āŋ*, Kott *anaŋ* 'small strap.' Cf. Proto-Dagestanian **Hʷʌmʔʌ*.
- 221 ROPE₂ **tiʔ*, Ket *tiʔ*. Cf. Proto-Dagestanian **ɾʌɪʷʌ*, Burushaski *ʈʌk* 'string (of choga),' Na-Dene: Tlingit *t'ix*.
- 222 SABLE **xēja*, Ket *ēfi* ~ *ēdə* ~ *ēʰt'*, Kott *ija*, Pumpokol *hiju*, Assan *ija*.
- 223 SALIVA₁ **duk* ~ *duq*, Kott *tuk*. Cf. Proto-Nax **tug* ~ **tuk*', Proto-Tibeto-Burman **tūk* 'saliva, spit (v.),' Basque *to egin* 'spit' (v.), Burushaski *thū ɛt* 'spit' (v.), Nahali *ʈhuk* 'spit' (v.), Na-Dene: Tlingit *tux* 'spit' (v.), Eyak *tux*, Sarsi *zók'ǎʔ*, Kato *šek*, Navajo *šééʔ*.
- 224 SALIVA₂ **huʌŋ*, Ket *uʌəŋ*, urin, Kott *hujun*. Cf. Proto-Yeniseian WATER below.
- 225 SALT **čəʔ*, Ket *ʌʌʔ*, Yug *čʌʔ*, Kott *ši-*. Cf. Proto-Abkhaz-Adyg **čə* ~ **jə*, Proto-Tibeto-Burman *(*m*)*tśi*. Bengtson (1991b: 132) adds Basque *itsaso* 'sea' and Burushaski *šau* 'oversalted (of food).'
- 226 SAND **pənaŋ*, Ket *hʌnəŋ*, Kott *fenəŋ* ~ *pʰenəŋ*, Arin *fiñəŋ* ~ *pʰiñəŋ*, Pumpokol *pinniŋ*.
- 227 SEVEN **ʔoʔn*, Ket *ɔʔn*, Arin *una* ~ *iña*, Pumpokol *oñaŋ*.
- 228 SHAMAN **sen*, Ket *šen-əŋ*, Yug *senəŋ*, Kott *šēnaŋ* 'shamanism,' *šēnaŋ hit*. Cf. Proto-(North) Caucasian **niwcʰwʌ* 'prince, God'; a metathesized form, according to Starostin.
- 229 SHARP **ʔete*, Ket *ēti*, Yug *ēt*, Kott *ēti*. Cf. Proto-Dagestanian *-*ʌčʰʌ*.
- 230 SHOE/BOOT **cēse*, Ket *tēsí*, Yug *čēʰs*, Kott *hēcí*, Arin *qisiŋ* 'shoes.'
- 231 SHOULDER **ken-*, Ket *ken-tə-buʌ* 'shoulder joint,' Kott *hēnar*, Arin *qínaŋ* ~ *xinaŋ* 'shoulder, arm.' Cf. Proto-(North) Caucasian **ḡʷIiŋʌ* ~ **niḡʷIʌ* 'shoulder, arm,' Old Chinese **qēn*, Nahali

- khaṇḍa*, Na-Dene: Ingalik -gòṇ 'arm,' Tanana *gan* 'arm,' Tlatskanai *okane* 'arm,' Navajo *gaan* 'arm.' According to Kuiper (1962: 85), the Nahali form is borrowed from Kurku (Munda).
- 232 SIX *ʔaxʌ, Ket *ā*, Yug *ā*, Arin *ögga* ~ *iga*, Pumpokol *aggiaŋ*. Cf. Proto-(North) Caucasian *ʔäräntʰ(w)ɪ, Proto-Tibeto-Burman *(d)ruk, Old Chinese *ruk.
- 233 (ANIMAL) SKIN *sās, Ket *sāsi*, Yug *sāʰs*, Kott *šet*. Bengtson (pers. comm.) adds the following Na-Dene forms: Tlingit *dʷas*, Hupa *sitʰ* 'bark, skin,' Galice -saas, Navajo *sīs*.
- 234 SKY/GOD *ʔes, Ket *ēs*, Yug *es*, Kott *ēs*, Arin *es*, Pumpokol *eč*. Cf. Proto-Dagestanian *ʔamśʌ 'sky, cloud; dignity, conscience,' ?Na-Dene: Haida *qʷēs*, Tlingit *kuts*, Eyak *koas*.
- 235 SLAVE/SERVANT *har-, Kott *haran-get* 'slave, servant,' Arin *ar(a)* 'self name of the Arin.' Cf. ?Nahali *halk* 'servant.' Kuiper (1962: 75) derives the Nahali form from Indo-Aryan *hālk.
- 236 SLED *soʔol, Ket *sūʌ*, Yug *sōl* ~ *soul*, Kott *fun-čol* 'little sled,' Arin *šal*, Pumpokol *cel*.
- 237 SLEEP₁ (v.) *xus, Ket *ušen*, Yug *usan*, Kott *uča* 'sleep' (n.), *učäkŋ* 'sleep' (v.), Arin *kus*, Pumpokol *utu*. Cf. Burushaski *gučhaiyas* 'to lie sleeping,' *ʌgučaiyas* 'put to sleep,' Na-Dene: Chipewyan *γùs* 'snore,' Coquille *γʷoš*, Navajo -γòš.
- 238 SLEEP₂ (n.) *sʌm-, Kott *šame*. Cf. Proto-Dagestanian *Hičʷinə ~ *Hiničʷə 'night, sleep.' According to Starostin, the Yeniseian form is in all likelihood related to Proto-Yeniseian *siŋ 'night,' which Starostin derives from an earlier *sim-g. Starostin (1989a: 64) adds Proto-Sino-Tibetan *chen 'night, darkness.' Bengtson and Blažek (1992) compare these forms with Basque *a-mets* 'dream' (with metathesis), Tlingit *čun* 'dream,' and Eyak *tʰĩ-dʷ* 'dream.'
- 239 SLY/DECEIVE *ʔaru-, Ket *aʌ-bet*, Yug *ar-bet* 'deceive,' Kott *āru* 'sly,' *āru-pi* 'deceit.' Cf. Basque *ero* 'stupid, fatuous.'
- 240 SMOKE (n.) *duʔx-, Ket *duʔ*, Yug *duʔ*, Kott *tu(g)*, Arin *tʰu*, Pumpokol *dukar*, Assan *tu*. Bengtson (pers. comm.) compares the Yeniseian forms with Burushaski *tux* 'steam, mist,' Tibetan *du-ba*, Sarsi (Athabaskan) -tʰuʔ, and Navajo -tʰooh 'smoke' (v.).
- 241 SNAKE/FISH *cik, Ket *tīγə* ~ *tīγ* 'snake,' Yug *čik* 'snake,' Kott *tēg* ~ *tēx* 'fish,' Arin *il-ti* 'fish,' Pumpokol *cič* 'meat.' Cf. Proto-Lezghian *č'ek- 'fish, lizard,' ?Basque *suge* 'snake,' ?Na-Dene: Haida *si-guh* ~ *si-ga* 'snake.'
- 242 SNOW₁ *tiχ, Ket *tik*, Yug *tik*, Kott *thik*, Arin *tē*, Pumpokol *tig*. Cf. Proto-(North) Caucasian *diχʷʌ 'snow, precipitation,' Na-Dene: Tlingit *tʰiq* ~ *tʰix* ~ *tix* 'snow, ice, hard,' Eyak *tʰitʰ* 'snow, ice,' Hupa *tʰitʰ* 'hard,' Navajo *tʰiz* 'hard.'

- 243 SNOW₂ *beʔč 'snow,' Ket beʔt, Yug beʔt', Pumpokol beč. Bengtson (pers. comm.) compares these forms with Eyak wehs 'soft snow, tundra.'
- 244 SNOW CRUST *čag ~ čak, Kott sāk 'icy crust on the snow.' Cf. Proto-(North) Caucasian *č^howq^hla 'drizzle, sleet, frost, granular snow.' Bengtson (1991a: 102) adds Burushaski čhaγ(-ūrum) 'cold' (adj.).
- 245 SOFT *pugam-, Ket hɔm-iʔəŋ, Yug fɔm-iʔiŋ, Kott p^hūgam ~ fūgam, Arin puma.
- 246 SOLE *kassad, Ket kassat, Kott hačar. Cf. Proto-(North) Caucasian *k^warč^hʌ ~ *k^warč^hʌ 'heel, foot.'
- 247 SON-IN-LAW/BROTHER-IN-LAW *ʔēñe, Ket εñ ~ ēne, Yug ēñ, Kott ani ~ añe, Arin b-än 'my son-in-law.'
- 248 SOON *ʔäʔc, Ket aʔt, Yug aʔt', Kott et-paŋ, Arin ati.
- 249 SOUP *ʔuʔχ ~ *xuʔk, Ket uʔk, Yug uʔk, Kott uk. Cf. Proto-Dagestanian *herenq'u (> Proto-Andi *ʔoq'ʌ, Proto-Tsez *jɔq'u, Proto-Lezghian *riq'), ?Basque zuku.
- 250 SPOON *kalp, Kott xalpen, Arin kilp^han, Pumpokol hapi. Cf. Burushaski khɒpun.
- 251 SPRING (season) *xīje, Ket īdə ~ īfi, Yug f^ht', Kott īji, Arin kej.
- 252 SPRING/WATERHOLE IN THE ICE *sin-, Ket sínʌ, Yug sinir, Kott šinaŋ. Cf. Proto-Dagestanian *ʔ^win(i)č^hʌ, Old Chinese *ceŋʔ 'well.' Bengtson (1991b: 133) adds Basque hosin 'well, pool.'
- 253 SQUIRREL *saʔqa, Ket saʔq, Yug saʔx ~ saʔq, Kott šaga, Arin sava, Pumpokol tak, Assan šaga. Cf. Na-Dene: Haida gaʔt^saak^w, Tlingit t^sʌlk, Eyak t^sət^lk, Galice salas.
- 254 STAR *qɔʔqa, Ket qɔR, Yug xɔ^hx, Kott alaga (< *al-xaga), Arin il-koj ~ il-xok, Pumpokol kaken. Cf. Na-Dene: Haida kūŋ 'sun,' Tlingit kuk-kan ~ k'akan ~ gagan 'sun.'
- 255 STERLET (kind of fish) *ʔok, Ket ōk, Yug ok, Pumpokol ot.
- 256 STOCKING *bulor, Ket buʌɔʌ, Yug bulɔl, Arin proroŋ 'stockings.'
- 257 STONE *čiʔs, Ket tiʔs, Yug čiʔs, Kott šiš, Arin kes, Pumpokol kit, Assan šiš. Bengtson (pers. comm.) compares the Yeniseian forms with Burushaski čiš 'mountain, hill' and Eyak čiiš 'beach, sand bank, gravel bank, sand, gravel.'
- 258 STRAIGHT *tat(aŋ), Ket tatəŋ, Yug tatiŋ, Arin tedenga. Cf. ?Basque zuzen, ?Burushaski tshɒn.
- 259 (SKI-)STRAP *ʔēs-, Ket ēše, Yug ēs. Cf. Proto-(North) Caucasian *ʔlarš^wa '(leather) cord, strap, thong.'

- 260 (BOW) STRING *cu(?) ~ *cuc, Yug *tut'* (< *t'ut'), Assan *gij-tu*, Arin *kej-tu*. Cf. Proto-(North) Caucasian *č'λʔλ 'bow, arrow,' Burushaski *čhukus* 'bow string.'
- 261 STRONG₁ *bid-, Ket *bīt*, Yug *bit* ~ *bidam*. Cf. Proto-(North) Caucasian *pλt^hλ 'strong, dense, firm.' Bengtson and Blažek (1992) add Basque *bethe* 'full,' *i-phete* 'thick, fat' and Burushaski *but* 'much, very.'
- 262 STRONG₂ *λa(?) , Yug *λāŋ* 'strong, firm,' Kott *d'aʔ-ut* 'fastening,' *d'oʔ-ūtaŋ* 'fasten, strengthen.' Cf. Na-Dene: Haida *tlaats'gaa*, Tlingit *litsin*, Eyak *atliahūkh*, Galice *t'aʔs*, Kato *læt^s*.
- 263 STUMP *saŋgaλ-, Ket *śuŋuʔt*, Kott *śagali*.
- 264 SUMMER *sir₁-, Ket *śīʔi*, Yug *sīr*, Kott *śil-paŋ*, Arin *śil*. Cf. Proto-(North) Caucasian *č^howilHλ ~ *č^hiwolHλ 'fall (season),' Old Chinese *čhiw 'fall (season).'
- 265 SUN *xiga, Ket *ī*, Yug *i*, Kott *ēga*, Arin *ega*, Pumpokol *hixem*. Cf. ?Na-Dene: Haida *xai* 'sunshine,' Tlingit *-xaa-t^s* 'be cloudless,' Proto-Eyak-Athabaskan *xwaa 'sun.'
- 266 SWAMP/LAKE *tāk-, Ket *taγ-ɔ* '(large) swamp,' Kott *ol-tēg* ~ *ol-tēx* 'swamp,' Assan *ol-tegan* 'lake.' Cf. Proto-Lezghian *tākār 'pond, lake, swamp.'
- 267 SWAN *čike, Ket *tīrə*, Yug *čik*, Kott *śīgi*.
- 268 SWEET *pir₁-, Ket *hīʔ* 'sweet mass under the crust of a birch tree,' *hiʔaŋ* 'sweet,' Yug *fiʔr* 'sweet mass under the crust of a birch tree,' *foran* 'sweet,' Kott *fil* 'sap of a tree,' *p^halaŋ* ~ *falaŋ*, Arin *kulun-pala*.
- 269 TAIL *pugaʔ, Ket *hūt*, Yug *fūt*, Kott *p^hugai* ~ *fugai*, Arin *p^hugaj*, Assan *pugaj*. Cf. Nahali *pago*.
- 270 TEN₁ *χɔga, Ket *qō*, Yug *xo*, Kott *hāga*, Arin *hioga* ~ *qoa* ~ *kova*, Pumpokol *xajaŋ*. Bengtson and Blažek (1992) compare these forms with Basque *hogoi* '20,' Proto-(North) Caucasian *gə '20,' and, in Na-Dene, Tlingit *-qa* '20,' and Eyak *gā* '10.' The Caucasian–Na-Dene comparison was first suggested by Nikolaev (1991: 55).
- 271 TEN₂ *tuʔ-ŋ, Kott *-thukŋ*, Arin *-thūn*. Cf. Proto-(North) Caucasian *w-encⁱ, Proto-Tibeto-Burman *tsiy ~ *ts(y)ay. Bengtson (pers. comm.) compares these forms with Basque *-tzi* (as in *bedera-tzi* '9,' *zor-tzi* '8').
- 272 TENT *χuʔs, Ket *quʔś*, Yug *xuʔs*, Kott *hūś*, Arin *kus*, Pumpokol *hu-kut*.
- 273 THAT *ka-, Ket *ka-śaŋ* 'there,' Yug *kā-t*, *ka-ñ* 'there,' Arin *xa-tu* 'he.' Cf. Proto-Dagestanian *gλ 'that (below the speaker),' Sino-Tibetan: Tibetan *kho* 'he, she,' Old Chinese *kə-s 'this, that,' *gə 'his, her.'

- 274 THIGH *pāp-, Ket hāp, Yug fap, Kott phēpar ~ fēpar. Cf. Proto-Lezghian *pīImp 'knee,' Proto-Tibeto-Burman *bop 'leg, calf of the leg.'
- 275 THIN *paksam, Ket haksēm, Yug faksim, Kott p^hačam ~ fačam. Cf. ?Nahali basi 'small.'
- 276 THIS *tu-, Ket tūdə, tuna 'these,' Yug tūt, tuña 'these,' Arin itaŋ 'they.' Cf. Proto-(North) Caucasian *tA- 'this, that,' Proto-Tibeto-Burman *day 'this, that,' Old Chinese *de? 'this.'
- 277 THOU *ʔaw ~ ʔu, Ket ū, Yug u, Kott au, Arin au, Pumpokol ue. Cf. Proto-(North) Caucasian *wo-, Burushaski ūŋ ~ um, Na-Dene: Tlingit weh.
- 278 THOU/YOU *kA- ~ *ʔAk-, Ket k- ~ ku- (second-person singular personal prefix), keŋ (second-person plural personal prefix), ɛk(ŋ) 'you,' ūk 'thy,' Yug k- ~ ku- (second-person singular personal prefix), keŋ (second-person plural personal prefix), (k)əkŋ 'you,' uk 'thy,' Pumpokol ajaŋ 'you.' Cf. Proto-Dagestanian *Ru ~ *ʔAR- 'thou,' Proto-Nax *Ho ~ *ʔah 'thou,' Proto-Tibeto-Burman *k(w)Aj 'thou.'
- 279 THREE *doʔŋa, Ket doʔŋ ~ dōŋ, Yug doʔŋ ~ doŋ, Kott tōŋa, Arin tūŋa, Pumpokol doŋa. Cf. Proto-Dagestanian *s̄wimHΛ, Proto-Tibeto-Burman *g-sum, Old Chinese *sēm.
- 280 THROAT *kəɾAd ~ *gəɾAd, Ket kaɾit, Yug kaɾat, Arin u-kurii. Cf. Nahali garḍan, Na-Dene: Haida haɬ ~ χil 'neck,' Tlingit kaɬ-duk 'neck.' Kuiper (1962: 73) compares the Nahali form with a similar Hindi word.
- 281 TONGUE *ʔej, Ket ej, Yug ej, Kott ei 'voice, sound,' Pumpokol aj. Cf. Nahali lāy.
- 282 TWENTY *ʔeʔχ, Ket εʔk, Yug εʔk. Cf. Proto-Dagestanian *Gə, Proto-Tibeto-Burman *(m)kul.
- 283 TWO *xi-na, Ket in, Yug in, Kott ina, Arin kina, Pumpokol hineaŋ. Cf. Proto-(North) Caucasian *q^wIä, Proto-Tibeto-Burman *g-ni-s, Old Chinese *nij-s.
- 284 UNMARRIED *ʔəpAl, Ket Al, Yug Alɪl, Kott ipal 'free.' Cf. Proto-(North) Caucasian *ʔApAj 'orphan,' Proto-Kartvelian *obol- 'orphan,' Proto-Indo-European *orbho- 'orphan.'
- 285 UTENSIL *siʔχ 'trough for dough,' Ket siʔk, Yug siʔk. Cf. Proto-(North) Caucasian *č'äq^wa 'spoon, scoop, wooden vessel.' Starostin (1984: 32) added Proto-Sino-Tibetan *ček^w 'to draw, to ladle.' Nikolaev (1991: 53) adds Proto-Na-Dene *c'äg(w) 'basket, bowl, dish,' Eyak c'äk-ɬ 'dipper,' Navajo c'aaʔ 'plate.' Bengtson and Blažek (1992) add Burushaski čuq 'a measure of grain,' Werchikwar (a Burushaski dialect) čhiq 'sifting tray.'

- 286 VULVA₁ *rɔs, Ket λōś, Yug los, Pumpokol lat. Cf. Proto-Dagestanian *rəcʷʌ 'anus,' Proto-Tibeto-Burman *ryes 'hind part, back, seat, posterior.'
- 287 VULVA₂ *gar, Kott kar, Assan kar, Arin ken (< *ker-(ʌ)n). Cf. Proto-Dagestanian *kʰwəru 'hole,' Proto-Nax *kor 'window' (< 'hole'), Proto-Tibeto-Burman *kor 'hole.'
- 288 WAR *kār₁e, Ket kāʎi, Yug kār, Kott hali, Arin kel 'army.' Cf. Proto-Dagestanian *dʰelʌ, Proto-Tibeto-Burman *rāl (< *lāl) 'war, fight.'
- 289 WARM *xus- ~ *xuʔus, Ket ūś, Yug ūs, Arin kuši 'hot,' Pumpokol utti-čidin 'hot.'
- 290 WATER *xur₁, Ket ūʎ, Yug ur, Kott ūl, Arin kul, Pumpokol ul. Cf. Proto-Dagestanian *xänʔi, Proto-Nax *χi, Old Chinese *ɬujʔ, Proto-Tibeto-Burman *lwi(y) 'flow, river,' Cf. also the Proto-Yeniseian words for WET and RAIN, herein. Starostin (1984: 26) added Proto-Sino-Tibetan *hu-s 'moisture.' Nikolaev (1991: 53) compares the Caucasian forms with Proto-Na-Dene *xanʔ 'water, river,' Haida gan-dl 'fresh water,' Tlingit hin 'fresh water, river,' Proto-Athabaskan *xanʔe 'river,' Tutchone xanʔe 'river,' Hupa hanʔ 'river,' Kutchin han 'river,' Kwalhioqua xonee 'river.' Bengtson (1991a: 101) adds Basque i-hin-tz 'dew' and Burushaski huu-š 'moisture.'
- 291 WET *xura, Ket uʎ-tu, Yug ul, Kott ūra 'wet, rainy,' Arin kur, Pumpokol ur-ga.
- 292 WHERE *wir₁, Ket biʎəs, biʎa 'how,' Yug bires, bire 'how,' Kott bili, biʎäŋ 'what.' Cf. WHO₁ below.
- 293 WHITE *täk- ~ *täkam, Ket taɣam, Yug tig-bēʰs, Kott tʰēgam ~ tʰēkam, Arin tāma, Pumpokol tam-xo, Assan tegama ~ tiekama. Cf. Na-Dene: Eyak tʰeʔq 'yellow,' Tanaina tsək 'yellow,' Galice tʰʰoh 'yellow,' Navajo tʰò 'yellow.'
- 294 WHO₁ *wi- ~ *we-, Ket bi-śśe (masc.), be-śa (fem.), bi-ʎa 'how,' bi-ʎəs 'where,' Yug be-tta, bi-re 'how,' bi-rəs 'where,' Kott bi-li 'where,' bi-ʎäŋ 'what.' Bengtson and Blažek (1992) compare the Yeniseian forms with Caucasian forms such as Archi ba-sa 'when' and Godoberi e-bu 'what,' with Burushaski be 'what,' be-se 'why,' and with Sino-Tibetan forms such as Burmese ba 'what' and Karen bei 'what, how.'
- 295 WHO₂ *ʔan-, Ket anej ~ ana, Yug anet. Cf. Proto-(North) Caucasian *nʌ (interrogative pronoun base), Sino-Tibetan: Old Chinese *nāj 'how, what,' Tibetan na 'when,' Khamti an-nan 'what,' Nahali nāni, nān 'what.' Bengtson (pers. comm.) adds Basque no-r.

- 296 WHO₃ *ʔas- ~ *sa-, Ket *aśeś* 'what,' *aś-ka* 'when,' Yug *asera*, *asejs* 'what,' *ās-kej* 'when,' *as-sa* 'what,' Kott *ašix* 'what, how,' *ši-na* 'what.' Cf. Proto-(North) Caucasian *šā (interrogative pronoun base), *šā (interrogative pronoun base), Proto-Tibeto-Burman *su, Basque *zer* 'what,' *zein* 'which,' Na-Dene: ?Tlingit *ah-sa*.
- 297 WIDE *χigʷʷ, Ket *qīʷ*, Yug *xēʷ*, Kott *hīgal*. Cf. Proto-(North) Caucasian *ʷʷq'ü ~ *q'ʷq'ü.
- 298 WIDOW *bəs, Ket *bassem*, *baśśəʷ-git* 'widower,' Yug *bassem*, Kott *paš-ūp-še* 'orphan, widow, widower,' Assan *pašup jali* 'stepson,' Arin *pas* 'slave,' *bi-paśša* 'my servant.' Cf. Proto-(North) Caucasian *p'ʷāi 'orphan, relative from a second marriage.'
- 299 WILLOW *dəʷe, Ket *dʷʷ-oks*, Yug *dəʷ-git*, Kott *tīli* 'thicket of willows,' Arin *tal-set*.
- 300 WIND *bej, Ket *bej*, Yug *bej*, Kott *pēi*, Arin *paj*, Pumpokol *baj* ~ *bej*. Cf. Proto-(North) Caucasian *mīwHʷ 'smell.'
- 301 WINTER *gəte, Ket *kəta*, Yug *kət*, Kott *kēti*. Cf. Proto-Lezghian *q'ʷor̄t(a).
- 302 WITCH/SHE-DEVIL *qos, Ket *qəśed-εm*, Yug *xəsed-εm*. Cf. Proto-Lezghian *qʷarc 'brownie (a small sprite),' Proto-Abkhaz-Adyg *Rʷəsət 'devil,' Burushaski *gus-* 'she-, woman.'
- 303 WOLVERINE₁ *kūñ, Ket *kūñe*, Yug *kūñh*, Pumpokol *kun*. Bengtson (pers. comm.) compares these forms with Basque *-konH in *harz-koin* 'badger'; for the first element in this compound, see the Proto-Yeniseian word for BADGER above.
- 304 WOLVERINE₂ *pestap, Kott *fəstap* ~ *pʰeštap*, Arin *pʰjastap*, Assan *pestap*. Starostin (1984: 29) compares the first syllable of the Proto-Yeniseian reconstruction with Proto-(North) Caucasian *bēHērc'i 'wolf' and with Old Chinese *prāt-s 'mythical predator.' Bengtson (1991a: 103) adds Basque *potzo* 'wolf, big dog.'
- 305 WOMAN₁ *qʷʷm-, Ket *qīm*, Yug *xim* ~ *xem*, Arin *bi-qamal* 'my wife,' *kemelä* 'woman,' Pumpokol *ils-em* (< *ils-qem) 'wife.' Cf. Proto-Dagestanian *qʷʷʷmʷ. Bengtson (1991a: 114) adds Basque *ema-kume* and Burushaski *quma* 'concubine.'
- 306 WOMAN₂ *ʔalit ~ *ʔarʷit, Kott *alit*, Arin *alte*. Cf. Proto-Dagestanian *ʔirdʷ.
- 307 WOOD₁ *ʔokse, Ket *ōks*, Yug *oksi*, Kott *atči*, Arin *ošče* ~ *otši*, Assan *ač(i)*.
- 308 WOOD₂ *xaʔq, Ket *aʔq*, Yug *aʔx* ~ *aʔq* 'trees, firewood,' Kott *āx* ~ *ag*, Arin *oo* 'firewood,' Pumpokol *hoxon* 'wood, forest.' Cf. Na-Dene: Haida *q'aw*, Tlingit *χaw* 'log,' Eyak *q'aʔ* 'bushes.'
- 309 WOOD₃ (ROTTEN) *tulaq, Ket *tulaq*, Yug *tulax*, Kott *tʰalak*.

- 310 WORD *qä(?)G, Ket qaʔ, Yug xā, Kott xēg ~ k^hēg. Cf. Na-Dene: Tlingit qa 'say.'
- 311 YEAR *sīGa, Ket sī, Yug sī, Kott šēga, Arin š^hej, Pumpokol ciku.
- 312 YELLOW *suʔ-, Ket sulemam, Kott šui, Pumpokol tul-si. Bengtson (1991a: 111) compares the Yeniseian forms with Basque zuri 'white' and Proto-(North) Caucasian *h^wö-č^wöɾa 'gray, yellow.'
- 313 YESTERDAY *kaNs-, Yug kisɔŋ, Kott honč-ig, Arin kanji, Assan xonji. Bengtson (pers. comm.) compares the Yeniseian forms with Burushaski gunc 'day.'

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5

Na-Dene Etymologies

Particularly controversial in linguistic taxonomy during the 1980's was the so-called "Na-Dene Problem." The problem was whether Haida, a language spoken on the Queen Charlotte Islands off the western coast of Canada, was a member of the Na-Dene family, as Edward Sapir had originally claimed in 1915, or was, rather, unrelated to the other branches of Na-Dene (i.e. Tlingit, Eyak, and Athabaskan). When Sapir's Na-Dene family was attacked by Pliny Goddard (1920), a leading Athabaskanist of his day, Sapir, weary and disgusted by a similar taxonomic dispute with the Algonquianist Truman Michelson (see Chapter 6), chose not to respond to Goddard's criticism.

This controversy was renewed in the 1960's and 1970's in a dispute between Heinz-Jürgen Pinnow, who maintained, with evidence even more abundant than that in Sapir's original material, that Haida was indeed a member of Na-Dene, and Michael Krauss, who argued that Haida had not been shown to be related to the Na-Dene family (for references to this dispute, see Pinnow 1990). In 1979 Robert D. Levine claimed that "the evidence offered in support of the 'classical' Na-Dene hypothesis (i.e., as set up by Sapir in his 1915 statement) is spurious, and that there is currently no empirical basis for including Haida in the Na-Dene grouping" (Levine 1979: 157). That same year Krauss (1979) also maintained that "there is no detectable genetic relationship between Haida and the others in the group, Tlingit and Athabaskan-Eyak" (p. 838) and thanked Levine "for debunking once and for all the claim that Haida has been demonstrated to be genetically related to Tlingit, etc." (p. 841).

Other scholars who have examined the evidence, however, have tended to side with Sapir and Pinnow rather than with Krauss and Levine. Sergei Nikolaev (1991: 43) noted that "certain doubts have been expressed regarding the inclusion of Haida in the Na-Dene family, but they should be considered unsubstantiated." In his book on the classification of New World languages, Joseph Greenberg (1987: 321-30) devoted an entire chapter to the "Na-Dene Problem," arguing that Levine's method of dismantling Na-Dene could just as easily be turned against Indo-European. Even if one were to ignore the new evidence adduced by Pinnow, and even accepting Levine's mostly erroneous strictures on methodology, Greenberg showed that Sapir's original evidence connecting Haida with the rest of Na-Dene was more than sufficient: "Even after Levine's unreasonable attack (1979), what survives is a body of evidence superior to that which could be adduced under similar restrictions for the affinity of Albanian, Celtic, and Armenian, all three universally recognized as valid members of the Indo-European family of languages" (p. 331).

During the data-gathering stage, in preparation for his work on the classification of New World languages, Greenberg assembled a Na-Dene comparative wordlist (Greenberg 1981). These data, however, were not used in *Language in the Americas* (1987), where Greenberg simply defended Sapir's original evidence. The present study is intended to show that had Greenberg chosen to use his Na-Dene wordlists, he could easily have strengthened Sapir's case, and in fact, as the etymologies given below indicate, the "Na-Dene Problem" was based on a misunderstanding of methodology, not on a lack of evidence. Can anyone really believe that Haida shares as many, or as precise, similarities with the Khoisan family (or any other family) as it does with the other Na-Dene languages? The etymologies in this chapter, based on my interpretation of Greenberg's Na-Dene notebook (a copy of which may be found in Stanford University's Green Library), argue to the contrary.

It should be noted that Greenberg's notebook includes information from 16 different Haida sources, 11 different Tlingit sources, and six different Eyak sources. Consequently, there is a certain fluctuation in the transcriptions for words in these languages that reflects dialectal differences, differing transcriptional abilities on the part of the linguists who produced the various works, and different systems of phonetic transcription. With a few exceptions I have not sought to impose uniformity on the varying transcriptions, which would be a daunting and not wholly feasible task. I have, however, consistently rendered [c] as [t⁸], and glottalized consonants are always indicated by a following apostrophe (e.g. p', t', k'). Furthermore, all morphological boundaries cited in these etymologies are actually posited in the sources, as shown in Greenberg's notebook. Quite often, however, morphologically unanalyzed forms are compared, where a certain morphological break is implicit in the compari-

son. Usually the portion of unanalyzed words being compared is clear, even without the specification of morpheme boundaries.

After assembling the set of Na-Dene etymologies on the basis of Greenberg's notebook, I compared these etymologies with those originally suggested by Sapir in 1915. In cases of overlap (roughly 25 examples), I have indicated the number of the Sapir etymology at the end of the etymology (e.g. [S44]). The other Sapir etymologies were then added to the list, again with an indication of their number in each case. Finally, some Na-Dene etymologies from a letter of Heinz-Jürgen Pinnow (pers. comm.) were added to the list; they, too, are identified at the ends of the appropriate etymologies (e.g. [P18]).

The etymologies follow:

- 1 ABOVE Haida *k'wa-ji* ~ *gī*, Tlingit *k'e* 'upward,' *kf* 'top,' Proto-Athabaskan **χa-* 'up, out of.' [S82]
- 2 AGAIN Tlingit *ts'u*, Proto-Athabaskan **ts'i*. [S76]
- 3 ALL Haida *tłōqan*, Eyak *tunhlokh*, Athabaskan: Tlatskanai -*wēł̥^αq*.
- 4 AMONG Haida *t'a-oan* 'alongside of,' Tlingit -*t'a:-k^w* 'in the middle of,' Proto-Athabaskan **-t'a*. [S60]
- 5 ANKLE Tlingit *kakaushitl'*, Athabaskan: Tsetsaut *ekyagō*.
- 6 ARROW₁ Tlingit *tax'ał'* 'needle,' Eyak *takl* ~ *teklj* ~ *t'ik'-ł* ~ *t'ek'*.
- 7 ARROW₂ Haida *s-q'a* 'stick,' *q'a* 'harpoon,' Proto-Athabaskan **q'ał*, Navajo *k'aał*. [P19]
- 8 ASK Eyak *qełd*, Athabaskan: Chipewyan *kə̀r*, Hupa *xid*, Mattole *kid* ~ *kə̀t*, Navajo *kíd*.
- 9 AUNT Tlingit *'át'*, Athabaskan: Mattole -*a:tsi?*. [S2]
- 10 BACK Haida *ts'awii* ~ *ts'ak'ii*, Tlingit *t'á* ~ *déχ'*, Eyak *t'ał-q'* 'in back of,' Athabaskan: Slave *t'áł* 'backwards,' Tututni *t'an* 'backwards.' [S69]
- 11 BE Haida *ʔit*, Tlingit *hitł* ~ (*s*)*ti*, Athabaskan: Tsetsaut *t'ε*, Tututni *ti*, Navajo *zí:d* 'become.'
- 12 BEAR₁ Haida *xúuts* 'brown bear,' Tlingit *xúts* 'brown bear,' Athabaskan: Tsetsaut *xō* 'grizzly bear.'
- 13 BEAR₂ Tlingit *s'ik* ~ *seek* ~ *tzeek* 'black bear,' Eyak *tziū* ~ *ts'iyu* 'black bear.'
- 14 BEAVER Haida *ts'ang*, Athabaskan: Tahltan *čā*, Chipewyan *tsa'*, Hare *tsáł*, Navajo *čā'*.
- 15 BECAUSE OF Haida -*t'a*, Proto-Athabaskan **-t'a*. [S67]
- 16 BELLY Tlingit *q'oł'* 'stomach,' Eyak *ku:l*.
- 17 BITE Tlingit *t'ax'*, Athabaskan: Chipewyan *tòàih* ~ *tòàγ*, Kato *t'ōγ*, Mattole *t'o* 'sting.'

- 18 BLACK Tlingit *t'ùč* 'black, coal,' Eyak *t'uʔč*, Athabaskan: Sarsi *t'às* 'charcoal,' Chipewyan *t'és* 'charcoal,' Tlatskanai *tês*, Wailaki *t'es* 'charcoal,' Navajo *tèès* 'charcoal.'
- 19 BLOOD₁ Eyak *dɛʔ*, Athabaskan: Sarsi *-dīt^L*, Chipewyan *dɛʔ*, Tsetsaut *a-dila*, Tututni *dəʔ*, Navajo *dīʔ*.
- 20 BLOOD₂ Haida *gai* ~ *gáy*, *s-gi-t* 'be red,' Tlingit *-gee* 'be bright,' Proto-Athabaskan **-gay* 'be white,' Navajo *-gai* 'be white.' [P20]
- 21 BLOW Haida *ux*, Tlingit *úx*.
- 22 BLUE₁ Haida *ʔu-ʔaʔ*, Tlingit *khatʔeh*, Eyak *khatl* 'green.'
- 23 BLUE₂ Haida *t'ánt^suut* 'bluejay,' Eyak *tʔāt*.
- 24 BODY Haida *k'ōt* 'corpse,' Eyak *geʔt*.
- 25 BONE Tlingit *s'a:q*, Proto-Athabaskan **-ts'én*. [S75]
- 26 BOW Haida *tl-kīt*, Tlingit *i-i-elte*, Athabaskan: Chipewyan *īʔtī*, Navajo *aʔtī*.
- 27 BROTHER₁ Tlingit *hunx* 'man's elder brother,' Proto-Athabaskan **-onay(e)* 'older brother.' [S56]
- 28 BROTHER₂ Haida *qā* 'mother's brother,' (*ti*)-*ka(-gha)* 'older brother,' Tlingit *akh-keek* 'younger brother,' *kak* 'mother's brother.'
- 29 BUILD Tlingit *yex* 'build, make,' Athabaskan: Mattole *yih*.
- 30 BURN₁ Haida *da:dj* ~ *das* 'live coals,' Proto-Athabaskan **-das*. [S9]
- 31 BURN₂ Haida *go* ~ *k'untl'daa*, Tlingit *gan* ~ *gan'*, Eyak *d-q'a*, Athabaskan: Ingalik *k'á(n)*, Carrier *-k'en*, Hare *k'ō*, Kato *k'an*, Navajo *k'āāh*, Jicarilla *k'ā*. [S35] [Cf. FIRE below.]
- 32 BUTTOCKS₁ Eyak *t'īj*, Athabaskan: Sarsi *-tʔāʔ*, Kato *t'a*, Mattole *t'aʔ*. [S44]
- 33 BUTTOCKS₂ Tlingit *k'í*, Athabaskan: Kato *kīʔ*.
- 34 CEDAR Haida *čju*, Proto-Athabaskan **č'o* 'fir, spruce.' [S80]
- 35 CHEEK Tlingit *wàš*, Athabaskan: Coquille *ni-paš*. [S47]
- 36 CHEW Haida *haljang*, Eyak *ʔaʔt'*, Athabaskan: Chipewyan *ʔaʔ* 'bite,' Dogrib *ʔaʔ* 'bite,' Mattole *ʔaʔ*.
- 37 CHILD Haida *gyīt*, Tlingit *git'a*, Eyak *qēč*. [Cf. SON below.]
- 38 CLAY Tlingit *s'ā*, Eyak *t's'aʔ*.
- 39 CLOUD₁ Haida *yai-en* ~ *yēn* ~ *yáan* 'cloud,' Eyak *jaa* 'heaven,' Proto-Athabaskan **yaa* 'heaven, sky,' Tanaina *yo-k'*, Koyukon *yo*, Hare *yà-k'è*, Kato *ya*, Navajo *yá*. [P11]
- 40 CLOUD₂ Haida *qwii*, Tlingit *gus*, *qo-gas* 'fog,' *gwas* 'be foggy,' Eyak *q'ahs*, Athabaskan: Sarsi *nàk'uś*, Carrier *k'wes*, Hare *k'o*, Navajo *k'òs*.
- 41 COLD₁ Haida *χwi* ~ *xwi*, Tlingit *kūsa*, Athabaskan: Sarsi *k'ás*, Carrier *k'wez*, Hupa *k'at^s*, Mattole *k'at^s*, Navajo *k'áz*, Lipan *k'às*.

- 42 COLD₂ Haida *t'at*, Tlingit *t'a:ɗj*, Proto-Athabaskan **t'e* 'be cold,' *t'ən* 'ice.' [S64]
- 43 COUGH Haida *q'usáang*, Athabaskan: Chipewyan *kwòθ*, Kato *kōs*.
- 44 COUNT Tlingit *t'uw*, Athabaskan: Sarsi *tà:i*, Chipewyan *tá*, Tututni -*tuk*, Mattole *ta'x*, Navajo *tàʔ*.
- 45 COVER Tlingit *kèt* (n.), Eyak *kaač* 'blanket.'
- 46 CRANE Haida *dila*, Tlingit *du:ɬ*, Proto-Athabaskan **deɬ*. [S11]
- 47 CRY Haida *sqa-yetl* ~ *sga-iɬ*, Athabaskan: Tanaina *tsax*, Beaver *tšûg*, Chipewyan *tsàɣ*, Kato *čəɣ*, Navajo *tsééh* ~ *tsà*.
- 48 CUT Haida -(*t'*)*at*, Athabaskan: Tsetsaut *t'a*, Kato *t'atʰ* ~ *t'as*, Mattole *t'ās*, Navajo -*t'ās*.
- 49 DANCE Tlingit *atl'ekh* ~ *ɬ'eχ*, Athabaskan: Tsetsaut *dle*, Tututni *daš*, Mattole *dāx*.
- 50 DARK Haida *ʕaalga*, Eyak *khalthetetiutu*, Athabaskan: Chipewyan *xɛɬ* ~ *xɪɬ*.
- 51 DAUGHTER Tlingit *sik* ~ *sí* ~ *si-kʷ*, Eyak *tsī(y)*, Athabaskan: Sarsi -*ts'αh*, Galice -*siiʔee*, Mattole -*tsī(y)*, Navajo -*tsiʔ*.
- 52 DAWN Tlingit *qea*, Eyak *qa* (v.).
- 53 DAY Haida *sen* ~ *siŋ* ~ *shang* ~ *sung*, Athabaskan: Tanaina *džanih*, Beaver *dzene*, Hare *džíné*, Galice *sinis*, Mattole *džij*, Navajo *jí*.
- 54 DECAY Haida *gu:na* 'decayed,' Proto-Athabaskan **-gaŋ* 'be mouldy.' [S15]
- 55 DEER Haida *k'áat*, Athabaskan: Tsetsaut *xadzine* 'male deer.'
- 56 DIE Tlingit *na*, Proto-Athabaskan **-na*. [S49]
- 57 DIG Eyak *ša*, šiyah 'dig for,' Athabaskan: Galice *sīʔ* 'dig a hole,' Kato *šīʔ*, Mattole *čīʔ*.
- 58 DIRT Haida *sq'íl*, Eyak *tʰəɬ*, Athabaskan: Tsetsaut *kwuɬ*.
- 59 DISH Haida *ts'a-* (classifier for dishes), Tlingit *s'ix'*, Proto-Eyak-Athabaskan **ts'aa'k'*, Eyak *ts'aag-ɬ* 'basket,' Athabaskan: Navajo *ts'ääʔ* 'shallow basket,' Kiowa Apache *ʔi-ts'eeh* 'plate.' [S74, P13]
- 60 DIVE₁ Haida *ji:*, Proto-Athabaskan **-jid* ~ *yid*. [S17]
- 61 DIVE₂ Tlingit *tsis*, Athabaskan: Tututni *síɬ*.
- 62 DOG Haida *χa* ~ *hā* ~ *ha*, Eyak *hava* ~ *xəwa*.
- 63 DREAM Tlingit *čun* ~ *jun*, Eyak *tsi:dz*.
- 64 DRINK₁ Tlingit *autenah* ~ *katana* ~ *na*, Athabaskan: Tlatskanai *tatəna*, Chipewyan -*dā*, Kato -*nan*, Navajo -*t'ā*. [S8, S50]
- 65 DRINK₂ Haida *χutʰɬ*, Eyak *khatilia*.
- 66 DURATIVE Tlingit *s-* (modal prefix), Proto-Athabaskan **s-*. [S57]

- 67 DUST Tlingit *s'ix*, Athabaskan: Carrier *xet-t^sih* 'ashes,' Galice *č'as* 'ashes,' Navajo *lèèš-č'ìh* 'ashes.'
- 68 EAR Haida *gyū ~ kiū ~ gēu*, Tlingit *gūk ~ ka-kūk*, Eyak *kha-khikh ~ ka-čech ~ jehχ*, Athabaskan: Tanaina *džaroh*, Koyukon *džarə*, Beaver *džuge?*, Kato *-č'əge?*, Navajo *-jää?*.
- 69 EARTH₁ Haida *tlig ~ t^lga ~ klik*, Tlingit *tliak-ū ~ klatk ~ tlit-tik*, Eyak *tzatikh*, Athabaskan: Navajo *te*.
- 70 EARTH₂ Eyak *an ~ 'ā ~ a*, Athabaskan: Kutchin *nən*, Hare *ne*, Hupa *nin*, Navajo *ni?*.
- 71 EAT₁ Tlingit *ya:n*, Proto-Athabaskan **yan*. [S88]
- 72 EAT₂ Haida *táa ~ -t'áang ~ kul-tah*, Athabaskan: Chipewyan *-tì*, Kato *tan*, Navajo *-t'āh*. [S62]
- 73 EAT₃ Haida *t-da-naaw* 'mealtime' (EAT + DRINK), Tlingit *-da-naa* 'drink,' Proto-Eyak-Athabaskan **-naam* 'drink,' Proto-Athabaskan **de-naam* 'drink,' Navajo *-dlā* 'drink.' [P16]
- 74 EDGE Tlingit *wən*, Proto-Athabaskan **man*. [S46]
- 75 EGG Haida *k'ao* 'salmon egg,' *kow ~ kaua*, Tlingit *kwət' ~ k'w'łt'* ~ *kwūt*, Eyak *k'udə-?uhdg ~ kota-ut*, Athabaskan: Ingalik *k'úw-k'una* 'fish egg,' Chipewyan *k'ūn-é* 'fish egg.'
- 76 ELBOW Haida *hie-tsi-kwe ~ čī-tseguī*, Tlingit *t'íy ~ t'iyšu*, Eyak *-čij*, Athabaskan: Sarsi *-ts'is*, Chipewyan *ts'úz*, Navajo *-č'ōžlā'*.
- 77 ELK Haida *tsish-ku ~ čišku ~ wut-tsish*, Tlingit *tishk ~ wutzekh*, Athabaskan: Tlatskanai *čisčex*, Galice *disčoh*, Navajo *d'zé:h*.
- 78 END Haida *t'an*, Proto-Athabaskan **-tad*. [S42]
- 79 FALL Haida *-wii ~ gwi*, Athabaskan: Sarsi *gùh ~ gùùl*, Navajo *gèèh ~ gò?*.
- 80 FAT Haida *šáay*, Tlingit *ēqē*, *'eχ* 'fish oil,' *íχ* 'oil,' Eyak *q'əχ*, Athabaskan: Beaver *k'a*, Carrier *-k'a*, Chipewyan *k'à*, Hare *e-γe*, Tsetsaut *eχε*, Galice *k'ah*, Wailaki *k'ah*, Navajo *k'àh*, Jicarilla *xéh*. [S20]
- 81 FATHER₁ Haida *háat ~ hadáa*, Eyak *ata*, Athabaskan: Sarsi *-tā?*, Chipewyan *-t'à*, Tsetsaut *tā'*, Tututni *ta?*, Galice *ta?*, Chiricahua *-tāà*.
- 82 FATHER₂ Tlingit *ak'ish ~ 'iš ~ iš*, Athabaskan: Lipan *-ʔààší*.
- 83 FEAR' Haida *χet^l ~ oēd ~ ʔít'ang* 'be ashamed,' *xált'as* 'fearful,' Tlingit *χet^l* 'afraid,' Athabaskan: Tanaina *git*, Ahtena *ged*, Beaver *dzid*, Sarsi *jìʔ(d)*, Kutchin *jed*, Chipewyan *jèr*, Tututni *dzít* 'frighten,' Hupa *g'id*, Kato *git*, Mattole *jíd*, Navajo *jíd*, Chiricahua *jì?*.
- 84 FEATHER Haida *t'aw ~ t'a-gun*, Tlingit *t'áw*, Eyak *t'āt* 'feather, leaf,' Proto-Athabaskan **t'aan* 'leaf,' Sarsi *t'àh*, Kutchin *-t'e*, a-

- t'an* 'leaf,' Carrier *-t'a*, *-t'an* 'leaf,' Hare *t'a*, *it'ō* 'leaf,' Tututni *t'a*, Tlatskanai *tan* 'leaf,' Galice *t'ai?*, *t'āāi* ~ *t'ā?* 'leaf,' Navajo *-t'ā?*, *-t'āā?* 'leaf.' [S68, P22]
- 85 FIRE Haida *č'ānu* ~ *t'sanu*, Tlingit *k'ān* ~ *q'ān*, Athabaskan: Beaver *kon?*, Sarsi *kūnā?*, Han *kwon*, Chipewyan *kún*, Tlatskanai *kwen*, Coquille *x'an*, Galice *kwan*, Mattole *koŋ*', Navajo *kō*, Lipan *kōō?*. [Cf. BURN₂ above.]
- 86 FIREWOOD Haida *kūk* ~ *kuk*, Eyak *kug-ɬ*, Proto-Athabaskan **kwegw*, Beaver *čūč*, Ahtena *čēc*, Hupa *č'wiz*, Mattole *čiš*, Navajo *čiz*, Lipan *čiš*. [P5]
- 87 FISH₁ Haida *χao* 'fish' (v.), Proto-Athabaskan **-k'a(n)* 'fish with a net.' [S29]
- 88 FISH₂ Tlingit *t'uku* 'salmon,' Athabaskan: Sarsi *t'úk'á*, Ingalik *t'úk'ā?*, Han *tugu*, Tsetsaut *to?*, Galice *t'uuk'e*, Navajo *tóó?*, Jicarilla *tógèè*. [S43]
- 89 FLOAT Eyak *tə-dux*, Athabaskan: Galice *t'uh* 'swim.'
- 90 FLY₁ (v.) Haida *χit* ~ *xit*, Eyak *k'a?t*, Athabaskan: Mattole *kād*.
- 91 FLY₂ (v.) Tlingit *t'atɬ* 'fly, flap wings,' Athabaskan: Sarsi *t'áh*, Carrier *-t'ah*, Hare *t'a*, Galice *t'ah*, Hupa *t'aw*, Mattole *t'ah*, Navajo *t'á*, Lipan *t'áh*.
- 92 FOAM Tlingit *xeɬ* ~ *χeɬ* ~ *χel* ~ *χeš*, Athabaskan: Chipewyan *-γ'ōs*.
- 93 FOLLOW Tlingit *k'e*, *k'en* 'to trace,' Athabaskan: Tututni *-k'eh* 'following.'
- 94 FOOD Haida *dáayang*, Athabaskan: Sarsi *dání*, Galice *s-taane*, Navajo *dāā*.
- 95 FOOT Tlingit *k'os* ~ *ka-kūs* ~ *q'os* ~ *χ'us*, Eyak *q'āš* ~ *k'ahš* ~ *kuš*, Athabaskan: Sarsi *γūs*, Kato *-woos*.
- 96 FOR₁ Haida *ga* 'to,' *gən* 'for,' Tlingit *ga* 'for,' Proto-Athabaskan **-γα* 'for,' **-γan* 'to.' [S18]
- 97 FOR₂ Tlingit *-χα-n* 'to,' Proto-Athabaskan **-χα*. [S81]
- 98 FORT Tlingit *nu*, Proto-Athabaskan **no* 'place of retreat, island.' [S55]
- 99 FRIEND Tlingit *χo:n*, Proto-Athabaskan **k'ene*. [S32]
- 100 FROG Eyak *čiaɬq*, Athabaskan: Tsetsaut *t's'alē*, Tlatskanai *swax-axel*, Hupa *č'w'al*, Kato *č'ahəl*, Navajo *č'ał*.
- 101 FUTURE Haida *-sa-ŋ*, Proto-Athabaskan **t'sa-ŋ*. [S3]
- 102 GIRL₁ Haida *jada-kudso* ~ *i-adda-hudsu* ~ *ntzahrtahutzo*, Tlingit *shaa-kutsku* ~ *shatkakuatsku*, Eyak *gelikutzkuki*, *khetzkisaha* 'daughter.'

- 103 GIRL₂ Eyak *keēl*, Athabaskan: Mattole *čīʔl*.
- 104 GIVE Tlingit *'ek* 'give a potlatch,' Athabaskan: Tsetsaut *'a* 'give a feast.'
- 105 GO₁ Haida *qa*, Tlingit *ha* ~ *nuk-koh*, Eyak *qah*, Athabaskan: Dogrib *γa*, Tsetsaut *-ga*. [S19]
- 106 GO₂ Haida *daal* ~ *dal*, Athabaskan: Chipewyan *dεʔ*, Kato *dəʔ* ~ *delʔ*. [S7, S10]
- 107 GOOD Haida *lah-gung* ~ *lā-gung*, Tlingit *gú* 'happy,' Eyak *dʷu*, Athabaskan: Koyukon *zun*, Tanaina *žin*, Chipewyan *zù*, Hare *zù*, Kato *šōŋ*, Mattole *xwoŋ*, Navajo *žó*.
- 108 GOOSE Haida *χaha* 'mallard,' Proto-Athabaskan **χa*'. [S83]
- 109 GRANDCHILD Haida *t'ak'an*, Tlingit *čxank'*, Athabaskan: Sarsi *-šīryá*, Tsetsaut *isča*, Tlatskanai *ōtsenee*, Kato *-čai*, Navajo *čyai*.
- 110 GRANDFATHER Haida *č'in*, Proto-Athabaskan **-č'i*. [S77]
- 111 GRANDMOTHER Haida *nān* ~ *nāan*, Athabaskan: Sarsi *ná* 'mother,' Chipewyan *né* 'mother,' Tsetsaut *na* 'mother,' Kato *nan* 'mother,' Mattole *-an-* 'mother.'
- 112 GRASS₁ Eyak *t'ihχ*, Athabaskan: Sarsi *gù-t'òwú*, Kutchin *t'ʰo*, Chipewyan *t'ʰòγ*, Dogrib *t'ʰóʔ*, Tlatskanai *t'okwa*, Galice *t'ʰuu*, Mattole *t'oh*, Navajo *t'ʰòh*.
- 113 GRASS₂ Haida *q'αn*, Proto-Athabaskan **k'ěŋ* 'withes.' [S34]
- 114 GREEN Tlingit *s'úw*, *souk* 'grass,' Athabaskan: Tututni *soh* 'blue,' Chasta Costa *ʔ-θo* 'blue,' Hupa *tʰow*, Mattole *-tʰow*, Kato *-tʰoo*.
- 115 GUTS₁ Haida *qasan-ts'ang* 'brains' (= head-guts), Athabaskan: Sarsi *čá(n)*, Ingalik *-čání*, Galice *sāã* 'brains.'
- 116 GUTS₂ Haida *k'íits* 'belly,' *kēs*, Athabaskan: Kutchin *e-tʰig*, Carrier *-tʰi*, Tsetsaut *ε-tʰēʔ*, Galice *č'iič'eʔ*, Hupa *č'eekeʰeʔ*, Navajo *-č'ííʔ*.
- 117 HAIR Haida *kow*, Tlingit *χàw*, Eyak *χuʔ* 'body hair,' Athabaskan: Tahltan *-γaʔ*, Chipewyan *-γá*, Tsetsaut *axa*, Galice *-waʔ* ~ *-γaa*, Hupa *-waʔ*, Kato *-gaʔ*, Navajo *-γààʔ*, Lipan *-γàà*.
- 118 HAND Haida *stlai* ~ *st'la* ~ *stlah* ~ *slai*, Tlingit *tl'eeq* 'finger,' Athabaskan: Sarsi *-lòʔ*, Tsetsaut *aʔa(ʔ)*, Galice *-laʔ*, Navajo *-l-àʔ*. [P9]
- 119 HAT Tlingit *sja:xʷ*, Proto-Athabaskan **č'a*. [S79]
- 120 HE Tlingit *iūtah* ~ *ū*, Athabaskan: Chasta Costa *yū* 'that one,' Mattole *yī*. [S27]
- 121 HEAD Haida *ša*, Eyak *shi-shage* ~ *šāw*.
- 122 HEAR Haida *gudáng* ~ *gūdeñ*, Athabaskan: Sarsi *-tʰ'á(n)*, Kutchin *tʰ'eg*, Carrier *tʰ'ai*, Hupa *-tʰ'in*, Kato *-tʰ'eg*, Navajo *tʰ'íih*, *tʰ'an* 'listen,' Lipan *-tʰ'ah*.

- 123 HEART Haida *tee-kuk* ~ *tek'ogo* ~ *k'úuk* ~ *kook*, Tlingit *téχ'* ~ *tēk'* ~ *teh-uk'h*, Athabaskan: Sarsi *dʷàγàní*, Kutchin *-dʷji*, Carrier *-dʷi*, Galice *-siiyiʔ*, Kato *-jiiʔ*, Navajo *-jéí*, Lipan *-jíf*.
- 124 HEAVEN Haida *qwēs* ~ *kweeskun* ~ *kwai*, Tlingit *kuts* ~ *'haatz* ~ *kohs*, Eyak *koas*.
- 125 HEAVY Tlingit *dáɬ* ~ *dal*, Eyak *dās*, Athabaskan: Chipewyan *dád*, Tututni *das*, Hupa *das*, Navajo *ndāz*.
- 126 HEW Haida *tshool-tao* 'axe,' Tlingit *s'uw*, Athabaskan: Slave *tθéɬ*, Navajo *tʰéɬ* 'chop.'
- 127 HIDE₁ (v.) Haida *sʷál*, Tlingit *č'aɬ*.
- 128 HIDE₂ (v.) Tlingit *sīn*, Athabaskan: Galice *sīi*, Hupa *sən*. [S58]
- 129 HIT Haida *kwa*, Tlingit *gwaɬ*, Athabaskan: Hupa *waɬ*, Mattole *gāɬ*, Navajo *γàɬ* 'hit with a stick.'
- 130 HORTATORY Haida *-dja-ŋ*, Proto-Athabaskan **-dja*. [S13]
- 131 HOUSE Eyak *yahd*, Athabaskan: Ingalik *yax*, Chipewyan *yē*, Kato *ye*.
- 132 I Tlingit *hutt* ~ *khüt*, Eyak *hütak*.
- 133 ICE₁ Haida *qaɬ* 'freeze,' *qalk* ~ *gal(ga)*, Tlingit *xat^l* 'iceberg,' Athabaskan: Tlatskanai *kolo*.
- 134 ICE₂ Tlingit *t'iq'* ~ *t'ix'* 'ice, hard,' *t'ik* 'stiffen,' Eyak *t'itʰs'*, Athabaskan: Beaver *tsíl* 'snowdrift,' Hupa *t^lits'*, Navajo *t^liz*, Kiowa Apache *t^lis*.
- 135 IN Haida *gei* 'into,' Tlingit *-ge*: 'inside of,' *-γi-k* 'inside,' Proto-Athabaskan **-ye*. [S93]
- 136 INSIDE Tlingit *daq* 'inland, shoreward,' Athabaskan: Slave *-t'á*, Dogrib *t'ah*.
- 137 INTRANSITIVIZER Haida *ta-*, Tlingit *da-*, Eyak *da-*, Proto-Athabaskan **de-* (passive prefix). [P2]
- 138 ISLAND Tlingit *χ'at'* ~ *kat'h* ~ *gat-te*, Eyak *qāt* ~ *k'āt'*.
- 139 JUMP₁ Tlingit *t'an*, Athabaskan: Tututni *-təm'*, Kato *tōŋ'*.
- 140 JUMP₂ Haida *tɬa*: 'dive,' Proto-Athabaskan **-ɬa*. [S41]
- 141 KICK Haida *tl'aa*, Tlingit *tseχ*, Eyak *taʔt^l*, Athabaskan: Tsetsaut *txa*.
- 142 KIDNEY Haida *čāē* ~ *cháay*, Athabaskan: Sarsi *ts'ùzǎ*, Chipewyan *ets'ǎsē*, Navajo *-časkazí*.
- 143 KILL₁ Tlingit *'in*, Athabaskan: Carrier *-γe*, Hare *-xe*, Galice *gīi*, Kato *gīŋ*, Mattole *giin*, Navajo *-γé*. [S23]
- 144 KILL₂ Tlingit *chūkh* ~ *yeh-achuk*, Eyak *khūkūvasheh*.
- 145 KNEE Eyak *guhđ*, Athabaskan: Sarsi *gūd* 'knee, elbow,' Kutchin *-gwod*, Chipewyan *tʰa-gwór-*, Tlatskanai *o'kwit*, Coquille *gʷad*, Hupa *got'*, Mattole *-gwoʔɬ*, Navajo *gōd*.

- 146 KNOW₁ Haida 'un-sēda ~ ʔun-sʔad, Tlingit k'ú ~ k'uen, Athabaskan: Dogrib zó, Hare zū.
 147 KNOW₂ Haida 'un-sēda ~ ʔun-sʔad, Athabaskan: Galice -tʰid, Kato tsə́t, Mattole ts'id.
 148 LAKE Eyak maa, Athabaskan: Tsetsaut mmē.
 149 LEFT Tlingit s'út', Athabaskan: Tsetsaut xuts'ede'.
 150 LIE DOWN₁ Haida wu-daa, Proto-Athabaskan *daa, Navajo -dá 'sit.' [P15]
 151 LIE DOWN₂ Haida tai ~ tay ~ tī, Tlingit t'a, -tii, Proto-Eyak-Athabaskan *tee-ng, Eyak te, Athabaskan: Sarsi tí(n), Kutchin čí, Carrier tī, Chipewyan tī, Hare ti, Galice tī, Kato teen, Wailaki tiŋ, Navajo tī. [S65, P14]
 152 LIQUID Haida ɣao, Proto-Athabaskan *-k'a (liquid has position). [S28]
 153 LIVER₁ Haida tl'ak'ul, Tlingit tl'úgù, Athabaskan: Tsetsaut aʔ'ɔq'.
 154 LIVER₂ Eyak -sahd, Athabaskan: Tanaina zit', Tahltan zid, Beaver zūt', Sarsi -ziʔ, Kutchin δàd, Hupa sit', Navajo zid.
 155 LONG Haida dzíng, Proto-Athabaskan *ngee's, Navajo -neez. [P7]
 156 LOOK₁ Tlingit t'íʔn 'see,' Proto-Athabaskan *-t'e 'look for,' *t'an 'look.' [S63]
 157 LOOK₂ Haida qyahtsgat 'look at,' Athabaskan: Galice gaš, Kato gets ~ guš 'look, see.'
 158 LUNGS Haida kāgən, Tlingit kyégú ~ kègú.
 159 MAKE Tlingit sī, Athabaskan: Tanaina čín, Koyukon tsi(n), Ingalik -tse(n), Chipewyan -tsi ~ -tsī, Hare sī, Chasta Costa sī, Mattole čī, Navajo čí ~ čí.
 160 MAN₁ Haida e-tliŋga ~ i-tiŋa, Tlingit tl'inkit 'people.'
 161 MAN₂ Haida tlal ~ t'al ~ tláal ~ tee-tlah 'husband,' Eyak ɬilā? ~ lilia.
 162 MAN₃ Tlingit qáh ~ qá ~ kah ~ ka, Eyak qaʔ ~ kha 'husband.'
 163 MANY Haida hlangáa 'be plenty,' Tlingit atlēn, Athabaskan: Sarsi -t'ā(n), Han lē, Carrier ɬanɛ, Tlatskanai ɬán, Kato -ɬaŋ, Navajo lān, Kiowa Apache ɬá.
 164 MOSQUITO Haida tshī-kul-di-gwa ~ tsi-kul-toon, Eyak tʰiyux, Athabaskan: Sarsi tʰí, Dogrib tθ'íh, Tsetsaut tʰesdja, Tlatskanai tziz 'wasp,' Navajo tʰí'í.
 165 MOTHER₁ Eyak amma, Athabaskan: Navajo má, Kiowa Apache má.
 166 MOTHER₂ Haida ʔaw ~ aw ~ ao ~ āo ~ ow, Eyak -ʔehd 'wife,' Athabaskan: Tlatskanai o'át, Galice ʔah, Navajo -a'ád 'wife.'

- 167 MOTHER₃ Tlingit *at-tlhee* ~ *ak'tlia* ~ *t'a*, Athabaskan: Beaver -*h* 'co-wife.'
- 168 MOTHER-IN-LAW Haida *djo:n*, Tlingit *č'a:n*, Proto-Athabaskan *-č'oj. [S78]
- 169 MOUSE₁ Haida *kagan*, Tlingit *kogək' ~ kugák*.
- 170 MOUSE₂ Eyak *t'ūtiyas*, Athabaskan: Sarsi *t'òóná*, Chipewyan *t'únè*, Tsetsaut *tóná*, Hupa *loʔn*, Kato *foon* 'rodent.'
- 171 MOUTH Eyak *saʔ-d*, Athabaskan: Tanaina *zah*, Sarsi -*zàʔ*, Ingalik -*δod*, Kutchin *šed*, Tsetsaut *asaʔ*, Hupa -*saʔ*, Navajo -*zééʔ*, Lipan -*ziʔ*.
- 172 MUCH Haida *ʔangáa* 'be much,' Proto-Athabaskan **ʔaang*, Navajo *ʔá*. [P6]
- 173 MUD₁ Haida *čān*, Eyak *t^saʔ*, Athabaskan: Chipewyan *dzá* 'sediment,' Kato *djāŋ*, Navajo *čā'í* 'muddy.' [S14]
- 174 MUD₂ Haida *hlq'ut'uu* 'slime,' Tlingit *qótl'kw* ~ *k'ot'k' ~ χet'* 'slime.'
- 175 NAIL Haida *kun* ~ *kwun* ~ *gun*, Athabaskan: Sarsi -*gán*, Chipewyan -*gàné*, Hare -*gone*, Galice -*gwan-yu*, Navajo -*s-gàan*.
- 176 NAME Tlingit *sa* ~ *sə*, *sen* (v.), Eyak *vahsheh*, Athabaskan: Ahtena *zā*, Tahltan *u-zii*, Sarsi *í-ziʔ*, Slave *se-ziʔ*, Galice -*šiʔ*, Hupa -*uu-šiʔ*, Navajo *yí-ží*, Lipan *í-žiiʔ*.
- 177 NAPE Haida *ts'ekyē*, Athabaskan: Tsetsaut *ats'īχa* (borrowing?).
- 178 NARROW Eyak *t^sid^z*, Athabaskan: Chipewyan *č'ùdè*, Kato *sōs*, Navajo *ts'òs*.
- 179 NEAR Haida *aχan*, Tlingit *χan* 'proximity.'
- 180 NECK Haida *halh* ~ *χil* ~ *hil* ~ *hil*, Tlingit *kahl-dukh* ~ *kalyatik*.
- 181 NEST Haida *hltálk*, Athabaskan: Sarsi *i-t'ú*, Chipewyan *et'ok*, Tsetsaut *at'ɔ*, Navajo *t'oh*.
- 182 NEW Haida *t'āga*, Tlingit *t'ak^w*.
- 183 NIGHT₁ Haida *gaat-gaa* 'be dark,' *t-gat* 'black,' Tlingit *giit* 'become dark,' Eyak *χət'*, Athabaskan: Sarsi *wīʔ*, Carrier *yeʔ*, Hupa *xāt'e*, Kato *kaʔ* 'night passes,' Chipewyan *xíʔ* 'darkness,' Navajo *di-t-xiʔ* 'black.' [S22, P21]
- 184 NIGHT₂ Tlingit *tāt* ~ *t'at'* ~ *tat* ~ *taht*, Athabaskan: Kutchin *taδ*, Chipewyan *təδ-è*. [S66]
- 185 NOT Tlingit *ʔ*, Proto-Athabaskan **ʔ* ~ *ʔa*. [S39]
- 186 OLD Tlingit *sān* 'old person,' Athabaskan: Tlatskanai *sen* 'old man,' Navajo *sání* 'old' ('seems to be applied to men mostly.'), *sá* 'old age.' [S85]
- 187 ON₁ Tlingit -*k'a*, Proto-Athabaskan **k'a*. [S30]
- 188 ON₂ Tlingit -*q'* 'at,' Proto-Athabaskan **-k'e*. [S36]

- 189 ONE Tlingit *tlex* 'one,' Eyak *tleki* ~ *tīhg* ~ *tikhi*, Athabaskan: Kutchin (*ī*)*lagə*, Tsetsaut (*ī*)*lege*, Hupa *la?*, Kiowa Apache *lā?*. [S40]
- 190 PAIN Eyak *k'ahd* ~ *k'a?d*, Athabaskan: Mattole *č'a-h* ~ *č'a-d*.
- 191 PAINT Haida *k'otlaño* ~ *k'udlan* (v.), Tlingit *gwəł'*.
- 192 PENIS Eyak *γəčəq'* ~ *guč*, Athabaskan: Sarsi *γīdzà?*, Galice *-iise?*, Mattole *-ītse?*.
- 193 PERFECT Haida *wu-* (perfect prefix), Tlingit *wu-* (perfect prefix). [P15]
- 194 PERSON₁ Haida *na* 'live, house,' Tlingit *na* 'people,' Proto-Athabaskan **-ne* ~ *-n* 'person, people.' [S51]
- 195 PERSON₂ Haida *tōwī* 'people,' Eyak *tahūiū* 'people.'
- 196 PLAY Haida *naŋ*, Proto-Athabaskan **-ne*. [S53]
- 197 PLURAL₁ Haida *-χa* (distributive suffix), Tlingit *-nα-χ* (distributive numeral suffix), Proto-Athabaskan **-k'e* (personal noun plural). [S31]
- 198 PLURAL₂ Tlingit *-γε-n* (plural of kinship terms), Proto-Athabaskan **-yě* (personal noun plural). [S91]
- 199 PLURAL₃ Haida *-gu* ~ *-go* ~ *-da-gu*, Tlingit *da-ga-*, Athabaskan: Chiricahua *daa-* ~ *-gó* ~ *daa-gó*. [P1]
- 200 POSTPOSITION Haida *-n* ~ *-ŋ*, Tlingit *-n* 'with,' Proto-Athabaskan **-n* ~ *-ŋ*. [S48]
- 201 POUND Haida *təq'it*, Tlingit *t'εχ'*, *t'aq'* 'hit,' *təqł* 'hammer,' Eyak *deq'* 'smack.'
- 202 PULL Tlingit *yiš*, Athabaskan: Kato *yōs* 'lead, drag.'
- 203 PUS Tlingit *qit'*, Eyak *χəs*, Athabaskan: Sarsi *γíz*, Navajo *xis*.
- 204 PUSH Haida *q'a* 'push over,' Athabaskan: Tsetsaut *-qa* 'push with a stick.'
- 205 QUICKLY Haida *xao* 'do a thing quickly,' Proto-Athabaskan **χα-ŋ*. [S84]
- 206 RABBIT Eyak *gəχ*, Athabaskan: Slave *gah*, Tsetsaut *qax*, Tlatskanai *sqEx*, Navajo *ga?*.
- 207 RAW Haida *taaw* 'raw food,' Eyak *t'ə-ŋ* 'raw,' Athabaskan: Chipewyan *t'ē*, Mattole *t'eeγ* 'raw meat,' Navajo *t'ā*.
- 208 RED₁ Tlingit *x'an* ~ *k'han* ~ *kaan*, Eyak *q'a*, Athabaskan: Carrier *deł-k'en*.
- 209 RED₂ Eyak *č'ə?* 'turn red,' Athabaskan: Tlatskanai *ttsīs*, Wailaki *čii?*, Mattole *-čii?*, Navajo *-číí?*, Lipan *čš*.
- 210 RELATIVE CLAUSE SUFFIX Tlingit *-yi*, Proto-Athabaskan **-ye*. [S94]
- 211 RETURN Haida *sdiuhl*, Athabaskan: Galice *dał*.

- 212 RIB Tlingit *ts'oq* ~ *s'úk^w* ~ *s'úgù*, Athabaskan: Beaver *čoŋge?*, Chipewyan *εčā*, Tlatskanai *čāqe*, Navajo *-tsā*.
- 213 RING Haida *st'a* 'ring-shaped object,' Proto-Athabaskan **tsa* 'ring-like object.' [S73]
- 214 RIVER Tlingit *wat* 'mouth of river,' Athabaskan: Kato *kwōt* 'stream.'
- 215 ROAD Tlingit *dē*, Eyak *tā*, Athabaskan: Ingalik *tìnā*, Carrier *ti*, Tlatskanai *tēn'ē*, Coquille *tanee*, Hupa *tin*, Navajo *?à-tìln*.
- 216 ROAST Haida *kits'aá* 'roast on a stick,' Eyak *gis*.
- 217 RUB₁ Tlingit *t'us*, Proto-Athabaskan **-t'od*. [S72]
- 218 RUB₂ Haida *gūš* 'wipe,' Tlingit *x'ut* ~ *x'aš* ~ *xas* 'scratch, scrape,' Athabaskan: Wailaki *guts* ~ *gās* 'scrape.'
- 219 RUN Haida *ga:t*, Proto-Athabaskan **-yed*. [S21]
- 220 SALIVA Tlingit *tux* 'spit' (v.), Eyak *tux*, Athabaskan: Sarsi *zák'ā?*, Kutchin *e-z'ig*, Umpqua *seek'e?*, Kato *šek*, Navajo *šéé?*.
- 221 SAY Tlingit *q'a*, Proto-Athabaskan **-a* 'tell, sing,' Tutuni *?a* 'talk.' [S97]
- 222 SEA Haida *sī(s)* 'ocean,' Eyak *šī* 'creek, stream,' Athabaskan: Galice *siskāā* 'ocean.'
- 223 SEE Haida *qín* ~ *qīn* ~ *kain*, *qen* 'look,' Tlingit *gen* ~ *gin* 'look,' Athabaskan: Sarsi *?i(n)*, Han *?in*, Carrier *-?en*, Slave *-?ī*, Galice *?ī*, Hupa *-?iŋ*, Navajo *?ī*. [S98]
- 224 SEW Haida *hay* 'knit,' Tlingit *qa* ~ *q'a*, Athabaskan: Sarsi *kā?(d)*, Galice *-ka?*, Kato *gat*, Mattole *kā?†* ~ *ka?d*, Navajo *kād*, Jicarilla *kā?*, Kiowa Apache *kā*.
- 225 SHARPEN Haida *k'aa*, Tlingit *k'ats* 'be sharp,' Athabaskan: Chipewyan *k'à* ~ *k'ā* ~ *k'a*, Chiricahua *kaš*. [S33]
- 226 SHIN Tlingit *χis*, Eyak *xi?t^s*.
- 227 SHOOT Tlingit *t'uk*, Proto-Athabaskan **-t'o*. [S71]
- 228 SHORE Tlingit *yàχ* ~ *'éq* 'beach,' Eyak *yəqt*.
- 229 SHORT Eyak *dik* ~ *dək*, Athabaskan: Tututni *dəg^w*.
- 230 SING₁ Haida *k'aju* ~ *k'atsao*, Eyak *kutzgi*.
- 231 SING₂ Tlingit *šī* ~ *šī* ~ *šī(n)* 'sing, song,' Eyak *t^sī*, Athabaskan: Tanaina *šen*, Galice *šan* 'song,' Navajo *sin*, Lipan *šī*. [S86]
- 232 SIT Eyak *da*, Athabaskan: Sarsi *dó*, Carrier *da*, Tsetsaut *da*, Galice *da*, Mattole *-daa*, Navajo *dá*.
- 233 SKIN Haida *q'a†*, Tlingit *χas* ~ *xás* 'fish scales,' Athabaskan: Sarsi *-kà†* 'hide,' Navajo *'aka†* 'leather.' [P17]
- 234 SMALL Haida *kut-soo* ~ *hūdžū*, Tlingit *k'atsku* ~ *akwatsku*, Eyak *kut^s* ~ *kuč*, Athabaskan: Mattole *-k'ow*'.

- 235 SMELL Haida *sánjuu*, Tlingit *čən* 'stench,' Eyak *čāh* ~ *čā?* 'smell, stink,' Athabaskan: Galice *šan* ~ *šāā*, Kato *čən*, Mattole *č'a*, Navajo *-č'á:* 'stench.'
- 236 SMOKE Eyak *tłā't* ~ *łāhd*, Athabaskan: Sarsi *t'ł*, Kutchin *lade*, Carrier *łed*, Hare *lere*, Tlatskanai *łit*, Tututni *łəd*, Galice *ład*, Navajo *łid*.
- 237 SNAKE Haida *si-guh* ~ *si-ga*, Athabaskan: Tsetsaut *go?*, Jicarilla *gó*.
- 238 SON Haida *gít* ~ *keet* ~ *kete*, Tlingit *git* ~ *geeth* ~ *yít'* ~ *yitik*, Eyak *qē*, Athabaskan: Sarsi *γá*, Navajo *γē?*. [Cf. CHILD above.]
- 239 SON-IN-LAW Haida *qunaa* ~ *qone*, Athabaskan: Galice *-gandaa*, Tlatskanai *oxontáne*.
- 240 SPEAK Haida *sota* 'speak to,' *-soot-* ~ *shoo*, Tlingit *sátú* 'voice,' Athabaskan: Navajo *sād* 'word.'
- 241 SPIDER Haida *q'utlsian*, Tlingit *qasist'an*.
- 242 SPIRIT₁ Tlingit *yék'* ~ *γe:k* 'spirit, spirit helper,' *'iχt'* 'shaman,' Proto-Athabaskan **ye* 'supernatural being,' **-yēn* 'to practice shamanism,' Galice *-yii's* 'spirit, breath.' [S92]
- 243 SPIRIT₂ Haida *gan-aa* 'be taboo,' *s-gáan* 'supernatural being,' Tlingit *da-gan-qú* 'hereafter,' Athabaskan: West Apache *gaan* 'supernatural being,' Chiricahua *gá-hé*. [P18]
- 244 SQUIRREL Haida *gahlts'aakw* ~ *gētltsak*, Tlingit *tsalk*, Eyak *tsətk*, Athabaskan: Galice *salas*, Kato *slús* 'ground squirrel,' Mattole *čalis*.
- 245 STAND Haida *gya* ~ *gyaraŋ* ~ *gyáa'ang*, Tlingit *gya*, Athabaskan: Galice *-gí?*, Mattole *ge* 'get up.' [S87]
- 246 STEAL Haida *q'otlta* ~ *q'uhldáa* ~ *kolt* ~ *kwōl*, Eyak *č'u?*, Athabaskan: Hupa *čōt* ~ *čōl*, Mattole *čōd* ~ *čōh*.
- 247 STEAM Haida *sil* 'steam' (v.), Tlingit *si:t* 'cook' (v.), Proto-Athabaskan **sil* 'steam' (n. & v.). [S59]
- 248 STEP (v.) Haida *t'a*, Proto-Athabaskan **-t'es*. [S70]
- 249 STICK Haida *t'asq'* 'shaman's baton,' Tlingit *t'ah* ~ *t'á* 'board.'
- 250 STONE Haida *t'ees* 'rock, ledge,' Tlingit *teh* ~ *t'ē* ~ *té* 'rock, stone,' Eyak *tšā*, Athabaskan: Tahltan *tsē*, Beaver *tseh*, Kutchin *či*, Carrier *tōe*, Tsetsaut *tsē*, Hupa *tšee*, Navajo *tšé*.
- 251 STRONG Haida *tlaats'gaa*, Tlingit *litsin*, Eyak *atliahūkh*, Athabaskan: Chipewyan *t'éd*, Galice *-t'áa's*, Kato *ləts* 'strong, rough.'
- 252 SUCK Haida *tl'án*, Tlingit *l'a*.
- 253 SUN₁ Haida *xai* 'sunshine,' Tlingit *-xaa-ts'* 'be cloudless,' Proto-Eyak-Athabaskan **xwaa*, Navajo *shá*. [P12]
- 254 SUN₂ Haida *kūng*, Tlingit *kuk-kan* ~ *kakan* ~ *gagan* ~ *k'akan*.

- 255 SWALLOW Tlingit *kwač*, Athabaskan: Kato *kət*, Mattole *ked* ~ *ke'*.
- 256 SWEEP Haida *hlk'yaawdaa*, Athabaskan: Galice *tʰad*.
- 257 SWIM₁ Haida *x'ak* 'swim under water,' Tlingit *q'aq* 'swim (of fish),' Athabaskan: Navajo *-kóóh*, Jicarilla *-kóh*.
- 258 SWIM₂ Eyak *we*, Athabaskan: Kutchin *-vi*, Carrier *-bih*, Tsetsaut *bε*, Kato *-be*, Mattole *-bee*.
- 259 TAIL Haida *sk'yaaw*, Tlingit *kuwú* 'bird's tail,' Eyak *k'ugut^lah*.
- 260 TAKE Haida *sáldaa* 'borrow,' Tlingit *šət'*. [S4]
- 261 TEAR (v.) Tlingit *s'eł'*, Athabaskan: Tsetsaut *ts'ε* ~ *tsε*.
- 262 TELL Tlingit *nik* ~ *nik'*, Athabaskan: Kato *nək* 'relate,' Navajo *-nih*. [S52]
- 263 TESTICLE Eyak *dl-tsā*, Athabaskan: Hupa *-šao?*, Wailaki *čök*, Navajo *-čo'*.
- 264 THAT₁ Haida *hao*, Tlingit *he* 'this,' Proto-Athabaskan **hai*. [S25]
- 265 THAT₂ Haida *wa-*, Tlingit *we*, Proto-Athabaskan **mě* 'he, it.' [S45]
- 266 THAT₃ Haida *gu* 'there,' Tlingit *yu* 'that yonder,' Proto-Athabaskan **yo* 'that yonder.' [S95]
- 267 THEY Tlingit *hass* ~ *ass*, Eyak *ashanū*. [S26]
- 268 THIGH Haida *tł*, Tlingit *ts'ēyu* 'calf,' Athabaskan: Sarsi *-tì* 'calf.'
- 269 THIN₁ Haida *t'αmdju*, Athabaskan: Chipewyan *t'ànè*, Navajo *t'āhi*.
- 270 THIN₂ Haida *ts'iyaa* 'thin person,' Athabaskan: Chipewyan *ts'è*, Mattole *č'ix*.
- 271 THINK Tlingit *jì*, Athabaskan: Sarsi *zìin*, Chipewyan *δì*, Coquille *san*, Hupa *sin(?)*, Mattole *sii(?)n*, Navajo *zìn*.
- 272 THIS₁ Haida *a-*, Tlingit *a-*, Proto-Athabaskan **a-*. [S1]
- 273 THIS₂ Haida *dei* 'just that way,' Tlingit *de* 'now,' Proto-Athabaskan **di*. [S12]
- 274 THIS₃ Haida *gai* 'this, that, the,' Tlingit *ya*, Proto-Athabaskan **ye-* 'that,' **y-* 'he.' [S89]
- 275 THORN Eyak *χūžš* 'thorns, sliver,' Athabaskan: Sarsi *xūs*, Chipewyan *xòs*, Navajo *xòš*.
- 276 THREAD Haida *gy'etlao*, Eyak *q'əj* 'ribbon.'
- 277 THUMB Haida *sli-k'use*, Tlingit *ka-kūsh* ~ *guš*.
- 278 THUNDER Haida *hii-lang* ~ *hī-ling-a* ~ *he-lun*, Tlingit *xet^l* ~ *heh'tl*, Athabaskan: Mattole *le'* ~ *liγ*.
- 279 TIE₁ Haida *tʰatʰas'*, Athabaskan: Koyukon *sos* 'knot,' Chipewyan *šás* 'knot,' Hare *šá?* 'knot,' Navajo *-žáš*.
- 280 TIE₂ Eyak *χehł* 'tie up,' Athabaskan: Galice *geł* 'tie up.'

- 281 TIE₃ Eyak *t^hi*, Athabaskan: Chiricahua *t^hó*.
- 282 TIE₄ Haida *t^su*, Proto-Athabaskan **-t^sos* ~ **-t^ses*. [S37]
- 283 TO Haida *-da*, Tlingit *-t* ~ *-de*, Proto-Athabaskan **-d* ~ *-dē*. [S5]
- 284 TOMORROW Tlingit *suk-kan* ~ *seh-kann*, Athabaskan: Chipewyan *k'ānī*.
- 285 TOOTH Haida *q'u-* 'with the teeth,' Tlingit *'úx* ~ *ka-ogh* ~ *ka-och*, Eyak *χuu-t*, Proto-Athabaskan **χwuu*, Tahltan *γuʔ*, Sarsi *-γòòʔ*, Carrier *-γu*, Tsetsaut *exoʔ*, Tlatskanai *o'o*, Hupa *-woʔ*, Mattole *-γwoʔ*, Navajo *-γòòʔ*. [S24, P10]
- 286 TOUCH Tlingit *ni* 'put,' Proto-Athabaskan **-ni*. [S54]
- 287 TOWARD Haida *gua* ~ *gui*, Proto-Athabaskan **-go*. [S16]
- 288 TREE Haida *qít*, *qēt* 'spruce,' Tlingit *k'e* 'log.'
- 289 TURN Tlingit *t'ix* 'twist,' Eyak *taʔk* 'twist.'
- 290 UMBILICAL₁ Haida *χil* ~ *sgíl* ~ *skil*, Tlingit *kóutl* ~ *kùt*.
- 291 UMBILICAL₂ Tlingit *t'an* ~ *tānu*, Eyak *ts'a* ~ *t^sāʔ*, Athabaskan: Sarsi *ts'ak'òʔ*, Hupa *ts'eeek*, Navajo *ts'ééʔ*.
- 292 UNDER Tlingit *yì*, Athabaskan: Kato *-ye*. [S90]
- 293 URINE Haida *tsegeñ* 'urinate,' Eyak *t^seʔq*.
- 294 VAGINA Haida *čúu*, Athabaskan: Sarsi *dzúʔ*, Tsetsaut *edju* 'vulva,' Galice *još*, Navajo *jóž*.
- 295 VEIN₁ Haida *kassu*, Eyak *k'uʔt* 'vein, tendon, sinew,' Athabaskan: Hupa *ky'ots* 'sinew,' Navajo *ts'òòs* 'vein, nerve.'
- 296 VEIN₂ Tlingit *tít'i*, Athabaskan: Tahltan *-č'ide*, Hare *č'íré*, Navajo *t^síd* 'sinew.'
- 297 WALK Haida *qáa* ~ *qa*, Athabaskan: Kato *qal* ~ *qaʔ*. [S96]
- 298 WASP Haida *sral*, Athabaskan: Tsetsaut *tsrāmaʔ*.
- 299 WATER₁ Haida *sū* ~ *súu* ~ *shoo* 'lake,' Athabaskan: Sarsi *tú*, Carrier *tuu*, Slave *tuʔ*, Tlatskanai *tū*, Galice *tuu*, Hupa *too*, Mattole *toʔ*, Navajo *tó*.
- 300 WATER₂ Haida *ʃan-t^l* 'water, river,' Tlingit *hain* ~ *hin* 'water, river,' Eyak *ʔā* 'river.'
- 301 WATER₃ Haida *tañ* 'sea water,' Eyak *tā* ~ *t'ā* 'waves,' Athabaskan: Galice *ta-*. [S61]
- 302 WAX₁ Haida *gyáa* 'tallow,' Tlingit *k'uχu* 'pitch,' Eyak *gahg* 'pitch.'
- 303 WAX₂ Eyak *sīhχ* 'resin,' Athabaskan: Sarsi *dzàh* 'pitch,' Chipewyan *dzé* 'gum,' Tsetsaut *tse* 'pitch,' Galice *seh* 'pitch, gum,' Hupa *džeh* 'pitch,' Navajo *jēh* 'pitch.'
- 304 WE₁ Tlingit *gigwann* ~ *yehwenn* 'you,' Eyak *khūinkhan*, Athabaskan: Tanana *xweni*, Hare *naxeni*, Tsetsaut *daxɔne*, Wailaki *nehij*, Lipan *nàhí*.

- 305 WE₂ Haida *iitl'* 'us,' Proto-Athabaskan *-ii'd (< -iit'), Navajo -iid-. [P4]
- 306 WET₁ Haida *t'lakdaa* 'soak,' Tlingit *t'lak'*, Eyak *ɬq'ú* 'become damp.'
- 307 WET₂ Haida *t'iɬ* 'wet on surface,' Athabaskan: Kato *čəl* ~ *čəɬ*, Mattole *čil* ~ *čəl*.
- 308 WHAT₁ Haida *gōsu* ~ *guus*, Tlingit *kusu* ~ *gùsú* ~ *gù*.
- 309 WHAT₂ Tlingit *da:*, Proto-Athabaskan **da*. [S6]
- 310 WHEN Haida *dlu*, Athabaskan: Slave *?edláú*.
- 311 WHERE Haida *t'l'aan*, Athabaskan: Chipewyan *?edlīni*.
- 312 WIND Eyak *k'uy*, Athabaskan: Ahtena *ɬ-ts'ih*, Sarsi *-t's'i*, Kato *-čii*, Navajo *ńí-č'í*.
- 313 WISH Haida *sdahláa* ~ *sdaɬa* 'wish, want,' Athabaskan: Galice *taɬ*.
- 314 WITH Haida *-eeɬ* ~ *-áɬ* ~ *-ɬ*, Tlingit *-(ii)n*, Proto-Athabaskan *-ɬ, Navajo *-(i)ɬ*. [S38, P3]
- 315 WOLF Haida *ɣúuts* ~ *hūts* ~ *hōdz*, Tlingit *kūtsh* ~ *k'utsch* ~ *kūdsh*, Eyak *kuutsch*.
- 316 WOMAN Haida *jáadaa* ~ *jat*, Tlingit *śát* 'wife,' Eyak *syet* ~ *syot*, Athabaskan: Navajo *'as-dzání*. [P8]
- 317 WOOD₁ Haida *q'aw*, Tlingit *χaw* 'log,' Eyak *q'a?* 'bushes.'
- 318 WOOD₂ Haida *tsan-oo* ~ *tshano*, Athabaskan: Kutchin *də-čan*, Chipewyan *dě-čín*, Galice *čan*, Mattole *č'iŋ*, Navajo *t'sín*, Lipan *-t's'íi*.
- 319 WORM Haida *k'áam* 'bug,' Eyak *gəma*.
- 320 YELLOW Haida *kun-tluh* ~ *q'an-hlahliaa*, Tlingit *t'lat'*.
- 321 YESTERDAY₁ Haida *ta-gha*, Tlingit *taɬgə* ~ *tat-keh*.
- 322 YESTERDAY₂ Haida *utahl* ~ *adahl* ~ *tahtla-lees-ta*, Eyak *tlehatl*.
- 323 YOU Haida *daleñ* ~ *daláng*, *t'aleñgua* 'we,' Athabaskan: Tlatskanai *ɬan*.
- 324 YOUNG Tlingit *yís*, Athabaskan: Kato *yašts*.

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Is Algonquian Amerind?

*It seemed and still seems to me that
the general cumulative evidence presented
is so strong and that many of the specific
elements compared are so startlingly similar
that no reasonable doubt could be entertained
of the validity of the claim.*

—Edward Sapir (1915)

When Edward Sapir, in 1913, announced his brilliant discovery that Wiyot and Yurok—two seemingly isolated languages on the Northern California coast—were related to the widespread Algonquian family that extended from the Great Plains to the Atlantic seaboard, he initiated a debate that is as fiercely argued today as it was then. The central question was *how* one could prove that a group of languages (or language families) were related, that they shared a common ancestor. In support of his hypothesis Sapir presented a fairly extensive list of grammatical and lexical similarities, including his *pièce de résistance*, virtual identity in the pronominal prefixes used to indicate the first-person, second-person, third-person, and indefinite possessor (i.e. ‘somebody’s, a’).¹ After laying out the evidence for these four prefixes in Algonquian, Wiyot, and Yurok, Sapir concluded: “I fail to see how any ingenuities of mere ‘accident’ could bring about such perfect accord in use and form of possessive pronominal elements” (1913: 622). Sapir’s colleague and friend Alfred Kroeber, who had himself earlier in the year discovered (with Roland Dixon) the Penutian and Hokan families, was equally impressed with Sapir’s evidence, writing him on July 30, 1913: “The pronouns turn the trick, alone,

¹ These are presently reconstructed for Proto-Algonquian as *ne- ‘my,’ *ke- ‘your,’ *we- ‘his,’ *me- ‘a’ (see Goddard 1975: 251).

but the rest looks good" (quoted in Golla 1984: 112). The material available on Wiyot and Yurok at this time was scanty, and Sapir did not expect that every etymological connection he proposed would stand up to scrutiny; he did, however, firmly believe that he had proved his case: "I am well aware of the probability that a considerable number of my lexical and morphological parallels will, on maturer knowledge, have to be thrown out of court; I cannot hope to have always hit the nail on the head. However, even if we eliminate fifty per cent. of our cognates as errors of judgment (doubtless far too great a sacrifice to caution) we are still confronted with no fewer than one hundred or more reasonably close analogies in stems and morphological elements" (1913: 639).

THE ATTACK ON SAPIR

The task of judging the validity of Sapir's hypothesis fell to the leading Algonquianist of the day, Truman Michelson, the son of the first American Nobel Laureate, Albert A. Michelson, who received the Nobel prize in physics in 1907. After receiving a Ph.D. in Indo-European philology from Harvard in 1904, Michelson spent the rest of his life studying the Algonquian family. Michelson could hardly avoid expressing an opinion on this quite unexpected, and seemingly improbable, relationship, and indeed he recognized that "the importance of this discovery, if valid, can hardly be overestimated" (1914: 362). Nevertheless, he dismissed Sapir's putative cognates as "fancied lexicographical similarities"; he criticized Sapir for comparing "different morphological elements"; he asserted that what few resemblances remained were simply "accidental"; and he concluded that "[e]nough has been said to show the utter folly of haphazard comparisons unless we have a thorough knowledge of the morphological structure of the languages concerned" (1914: 362, 365, 366, 367). His conclusion was so harsh and "invidious" (Haas 1958: 161) that the Algonquian-Ritwan relationship (Ritwan = Wiyot + Yurok) came to be considered, by the academic community at large, an unresolved taxonomic puzzle.

Sapir and Kroeber never wavered in their conviction that Wiyot and Yurok were indeed cousins of Algonquian. In an exchange of letters following the appearance of Michelson's rebuttal (Golla 1984: 151-54), Sapir wrote to Kroeber: "His [Michelson's] narrowness of outlook . . . is quite apparent . . . I am particularly surprised to see that he makes such an excessive use of what I would consider purely negative evidence." Kroeber was even less impressed with Michelson's arguments: "Michelson's review strikes me as puritanical. I have never had any doubt of the validity of your union of Wiyot and Yurok with Algonkin. . . . I hardly consider it worth while seriously to refute

Michelson. His attitude speaks for itself as hypercritical and negative. . . . I regard the case in point so one-sided as to be already conclusively settled." As other, similar disputes over genetic affinity arose (e.g. Hoka, Penutian, Na-Dene), there quickly developed two opposing camps. On the one side were scholars such as Kroeber and Sapir who interpreted lexical and grammatical similarities as evidence of genetic relationship. On the other side were men such as Michelson, Pliny Goddard, and Franz Boas who attributed these perceived resemblances to misanalysis, borrowing, and chance. We might call the former Geneticists and the latter Diffusionists. Both camps survive to the present day.

A MODERN PERSPECTIVE

When one reads the Sapir-Michelson confrontation today, one can hardly fail to be struck by two things. First, the case that Sapir presented was simply overwhelming. And second, whatever talents Michelson may have had as an Algonquianist—and these apparently were considerable—he had little understanding of basic taxonomic principles, and the vast majority of his objections to Sapir's hypothesis were irrelevant. In fact, most of his rebuttal was taken up with listing ways in which Wiyot and Yurok differed from Algonquian, as if this negative evidence could somehow offset the positive evidence that Sapir had offered! Nonetheless, Michelson's reputation was such that his denial alone was sufficient to prevent the general acceptance of Sapir's proposal. There can be no doubt that had Michelson given his approval *there would never have been a controversy at all*. But in the face of his vigorous, if ill-conceived, dissent, outsiders were understandably hesitant to question him, loath to overrule an expert on his home ground.

There the question stood until, in the early 1950's, Joseph Greenberg, fresh from his landmark classification of African languages, reexamined the controversy. He found that the real puzzle was not whether Wiyot and Yurok were related to Algonquian, but why there was any doubt about it: "[E]ven a cursory investigation of the celebrated 'disputed' cases, such as Athabaskan-Tlingit-Haida and Algonkin-Wiyot-Yurok, indicates that these relationships are not very distant ones and, indeed, are evident on inspection" (1953: 283). In 1958, with new fieldwork on both Wiyot and Yurok at her disposal, Mary Haas examined the alleged relationship, and pronounced herself "in agreement with Greenberg's remarks about this relationship."² Thus, by the end of the

² Haas 1958: 160. This article is often incorrectly interpreted as the conclusive proof that Sapir was right about Algonquian-Ritwan: cf. Campbell and Mithun (1979: 26): "a relationship controversial at the time, but subsequently demonstrated" and Goddard (1975: 249): "At present, however, largely as a result of new data provided by recent fieldwork on Wiyot and Yurok, scholars are in general agreement that the daring hypothesis of Sapir

1950's, with all the experts now on one side of the debate—Sapir's side—the rest of the linguistic community was quite willing to let this pseudo-controversy die the quiet death it had for so long deserved.

But if this particular dispute was resolved, the underlying disagreement between the Geneticists and the Diffusionists remained practically untouched. And, ironically, it was the Diffusionists who came to dominate Amerindian linguistics, Sapir's successes in argumentation notwithstanding. The one scholar who might have counterbalanced this unfortunate swing of the pendulum, Morris Swadesh (a brilliant linguist and student of Sapir), was effectively banished to Mexico for political reasons, where he died in 1967. With the Diffusionists firmly in control of the Amerindian establishment, a series of conferences was held at which the proposed higher-level groupings of Kroeber and Sapir were dismantled, one by one, until the list of independent families in North America approached what it had been at the start of this century. Seen from this perspective (see Campbell and Mithun 1979), Sapir's lone surviving success would be the Algonquian-Ritwan grouping. Almost all of his other proposals were abandoned, and the field settled into a great array of specialist preoccupations.

THE ATTACK ON GREENBERG

The calm was broken in 1987 by the appearance of Greenberg's classification of New World languages, the result of some thirty years of research and the compilation of the most extensive Native American wordlists ever assembled. Greenberg's proposal that all the languages of the Western Hemisphere belonged to one of three phyla (Eskimo-Aleut, Na-Dene, or Amerind) was so at variance with the prevailing Diffusionist climate that it immediately provoked a firestorm of criticism from one Diffusionist after another, each reminiscent of Michelson's attack on Sapir. Even before Greenberg's book was published—and without seeing the evidence it contained—Lyle Campbell called for Greenberg's classification to be "shouted down" (1986: 488). A year later Campbell wrote: "In light of this disregard for the work in the American field, it is indeed surprising that a publisher of the calibre of Stanford Press agreed to publish [*Language in the Americas*]; it is tempting to speculate that this would not have been possible if the book did not bear

is, indeed, correct." Haas herself, by seconding Greenberg's conclusion on the obvious nature of the relationship, shows that she considered the matter to have been already settled—presumably by Sapir in 1913. Moreover, she explicitly states that "my purpose in preparing the present paper is to give the evidence not given by others in support of the Algonquian-Ritwan affiliation" (p. 160). See also Haas (1966) for further discussion of the Sapir-Michelson controversy.

G[reenberg]'s name. A scholar of lesser renown would not have been permitted to slight the canons of scholarship in this way" (1987; quoted from *Mother Tongue* 5: 22). Terrence Kaufman criticized Greenberg for "comparing words whose morphemic make-up he does not understand," for not "hold[ing] back on the task until accurate and extensive data are available," and for "avowed values [that] are subversive and should be explicitly argued against."³ Wallace Chafe saw Greenberg's "book as a random collection of chance resemblances and resemblances due to diffusion indiscriminately mixed with some that do reflect the common origins of some subsets of these languages" (1987: 653). Victor Golla, after first endorsing the accuracy and usefulness of Greenberg's book,⁴ changed his mind a year later, for reasons unknown. In a thoroughly negative review Golla concluded that "[v]ery little of this [Greenberg's classification] will be taken seriously by most scholars in the field" (1988: 435), primarily because Greenberg's proposed etymologies do not observe regular phonological correspondences. That Greenberg devoted the first chapter of his book to just this question Golla fails to mention. William Bright warned potential readers of the book that "most scholars in native American comparative linguistics regard Greenberg's methodology as unsound" (1988: 440). Finally, Ives Goddard, like Michelson an Algonquianist with a Ph.D. from Harvard and effectively holding Michelson's "chair" at the Smithsonian Institution,⁵ dismissed Greenberg's book as a worthless conglomeration of "[e]rrors in the Algonquian data, . . . incorrect or unsupported meanings, . . . incorrect analyses, . . . chance [resemblances], . . . [and] unacknowledged segmentations. . . . [Greenberg's] technique excludes historical linguistic analysis . . . [and] is so flawed that the equations it generates do not require any historical explanation, and his data are unreliable as a basis for further work" (1987a: 656-57). Worse, Goddard attributed Greenberg's errors not simply to carelessness, haste, or incompetence, but to dishonesty: "Greenberg makes often unacknowledged segmentations that are not based on grammatical analysis but merely serve to make the forms being equated seem more similar than they really are. . . . Such distortions are an integral part of Greenberg's technique" (1987a: 657). Thus, the charges leveled against Green-

³ Kaufman 1990: 16, 63. Inasmuch as Greenberg was almost 72 at the time his book was published—over three decades after he had first announced his classification—one can only wonder just how long Kaufman expected Greenberg to "hold back."

⁴ "I do not mean to challenge its fundamental accuracy. Greenberg has provided us with a useful survey of lexical similarities among the languages of the Americas on a scale far beyond anything previously attempted. His identification of common 'Amerind' elements uniting all American Indian languages with the exclusion of Na-Dene and Eskimo-Aleut will be a lasting contribution to American Indian linguistics" (Golla 1987: 658).

⁵ Michelson worked for the Bureau of American Ethnology in Washington, D.C.

berg's Amerind hypothesis are effectively a resurrection of those directed at Sapir's Algonquian-Ritwan hypothesis: misanalysis, undetected borrowings, and chance resemblances, with a dose of *ad hominem* invective in the bargain.

AN ANALYSIS OF THE ATTACK ON GREENBERG

Whatever its virtues or failings, an assault of this breadth and character carries an air of verisimilitude, and history demands that its particulars be examined. As one of the principal instruments in the assault, Goddard's two-page review of *Language in the Americas* bears closer scrutiny. One of his charges is that because Greenberg's work is based on linguistic data from *contemporary* languages,⁶ it cannot tell us anything about linguistic prehistory; the resemblances Greenberg notes are just as likely to result from accidental convergence as from common origin. Goddard also claims that "[i]n a proper etymology every divergence must be explained by a postulated change consistent with a complete historical hypothesis" (1987a: 657) and, furthermore, "[w]here grammatical elements are etymologized it is necessary to present an hypothesis about the system of which they are a part in its entirety" (1975: 255). This pronouncement (already doubtful, on its face) did not, however, prevent Goddard from "etymologizing" an intercalated **-t-* for Proto-Algonquian-Ritwan with no hypothesis whatsoever about its historical source: "In Algonquian and Wiyot vowel-initial non-dependent nouns insert a *-t-* after the [pronominal] prefixes: Fox *ahkohkwa* 'kettle,' *netahkohkwa* 'my kettle' (with *ne-* plus *-t-*); Wiyot *ifl* 'intestines,' *dutifl* 'my intestines' (with *du-* and *-t-*)" (1975: 252).

Now if one artificially limits one's perspective to the Algonquian-Ritwan family, then the historical source of this mysterious **-t-* is indeed obscure. And it is precisely in such cases that the broader context of the Amerind phylum, with its greater chronological depth, can clarify unresolved issues. In his extensive discussion of the origin and development of the Amerind pronominal system Greenberg adduces evidence from eight of Amerind's eleven basic subgroups for a demonstrative/third-person pronoun whose original form was probably **ti* or **ta* (1987: 44-48, 281-83). From the perspective of his already classic study of the origin of gender markers (1978: 47-82), Greenberg then surveys the development of this demonstrative element throughout the Amerind family. In some branches the original demonstrative meaning is preserved, either exclusively (e.g. Macro-Tucanoan) or in part (e.g. Andean, Macro-Carib, Macro-Panoan). In other branches the demonstrative has developed into a third-person pronoun (e.g. Macro-Panoan, Macro-Ge,

⁶ This is not true. Greenberg also used reconstructed forms, where they exist; the sources of these are listed on p. 181 of his book.

Andean, Penutian) or relative pronoun (e.g. Macro-Panoan). In Macro-Ge and Macro-Panoan it has also developed into a marker of the masculine gender. Finally, in its semantically most eroded form, it occurs in Hokan and Algonquian-Ritwan reduced to a Stage III article, that is, a mere marker of nominality. What is particularly striking is that in Hokan and Macro-Carib, as in Algonquian-Ritwan, this element occurs only before stems beginning with a vowel (e.g., in Carib, Pemon *i-paruči* 'his, her sister' vs. *i-t-enna* 'his, her hand'). Greenberg explains this apparent anomaly as a consequence of an originally ergative pronoun system in Amerind. Proto-Amerind contained two sets of pronouns, an *ergative* set used as the subject of a transitive verb (and in nominal possession, e.g. 'my foot'), and an *objective* set used as the subject of an intransitive verb or object of a transitive verb (and in nominal predication, e.g. 'I am a man'). In Proto-Amerind the ergative third-person pronoun was **t*, while the objective third-person pronoun was **i*.⁷ In a number of cases, when the ergative system broke down, what had originally been morphologically conditioned variants of an ergative system became phonologically conditioned. At a later date this irregularity was ironed out by the addition of the "regular" pronoun **i* to all stems, leading to the anomalous distribution of *t* in the Pemon example above. From the deeper perspective of the Amerind phylum, idiosyncratic—and synchronically unmotivated—elements such as the mysterious Algonquian intercalated **-t-* can be explained by the action of well-attested diachronic processes. Such integration of typological pattern with diachronic process is one of Greenberg's many contributions to general linguistics.

Goddard's reluctance to consider the broader Amerind context should come as no surprise, since he has already shown a predilection for maintaining the status quo against historical reality, even within the Algonquian family. When Leonard Bloomfield reconstructed Proto-Algonquian in 1925 he posited a proto-segment **θ* to account for an alternation between *t* and *n* in the four languages he considered. In a later work (1946: 87), Bloomfield gave the enigmatic gloss "an unvoiced interdental or lateral?" to describe this segment. But in his survey of comparative Algonquian, Goddard concluded that "[i]t is hard to see what testable consequences the assumption of one or the other phonetic value for **θ* would have . . . and this small point of uncertainty may be allowed to remain" (1979: 73). Other Algonquianists,⁸ however, have argued persuasively that there *are* testable consequences, and that both internal and external evidence points to an original voiceless lateral fricative **ɬ*, not the totally improbable **θ*. This is but one example of the narrow-mindedness

⁷ The extensive distribution of this formative in the Amerind phylum is discussed by Greenberg on pp. 279-81.

⁸ Siebert 1975, Picard 1984, Proulx 1984.

that has characterized Algonquianists from Michelson to Goddard, and that has been duly criticized by Paul Proulx:

Some reluctance to revise PA [Proto-Algonquian] reconstructions on the basis of Algic data is understandable: PA is familiar territory and generally seems securely reconstructed. In contrast, Proto-Algic is very unfamiliar and may seem speculative. But all linguistic reconstructions, including PA, are biased toward the present. It is precisely archaic features in the protolanguage which are the most difficult to reconstruct, and it is here that a deeper time level is invaluable. The reluctance to use Proto-Algic in Algonquian studies must be overcome, for many of the most recalcitrant problems of Algonquian will be understood in no other way. [1984: 205]

But far from using Greenberg's book to inform his own field of study, Goddard's sole purpose, both in his review and in his public lecture (1987a,b), has been to attempt to discredit Greenberg's tripartite classification of the languages of the New World, and in particular to deny that the Algic family (Algonquian + Wiyot + Yurok) has any known relatives. The claim is thus the same as Michelson's, except that Goddard is willing to accept another two languages, Wiyot and Yurok, into the family. Goddard attacks Greenberg's classification by a series of criteria, each of which supposedly "invalidates" a certain number of the 2,000 etymologies Greenberg offered in support of Amerind and its subgroups. He restricts his attention to the 142 lexical etymologies in which Algonquian forms are cited; the *grammatical* support for Amerind—to which Greenberg devotes an entire chapter—is not mentioned. In light of Goddard's claim that "it is virtually impossible to prove a distant genetic relationship on the basis of lexical comparisons alone" (1975: 255), it is puzzling that he should choose to examine the evidence he finds least persuasive, and to totally ignore the grammatical evidence on which he puts so much weight. In any event, of the 142 lexical cognate sets involving Algonquian, Goddard is able to invalidate, by his criteria, all but 35. The significance of the remaining 35 etymologies, which stand up to Goddard's most rigorous methodology (but are not explicitly identified), is not discussed. But it is in fact more illuminating to examine those etymologies that Goddard claims to have invalidated, that we might better understand how his techniques work.

According to Goddard, errors in the Algonquian data invalidate 93 of the etymologies, the largest source of disqualification (34) being cases where Greenberg has cited unrelated Algonquian forms. Goddard gives four examples of etymologies he eliminates by this criterion, and examining one of the four here should prove instructive. In Amerind etymology No. 238 (SMELL₁), Greenberg includes three of Bloomfield's Proto-Central Algonquian reconstructions: **mat*, **mat**i 'smell'; **mi:s*, **mit* 'excrement'; and **mači* 'bad.' Goddard objects that **mat* 'bad' and **mi:t* 'defecate' are etymologically unrelated, and hence the Amerind etymology is invalid. But if Bloomfield's three roots *are* etymologically distinct, then Greenberg has simply mixed together

two distinct roots, in which case the etymology should be broken up into two separate etymologies, not done away with altogether. (*Croisement de racines* is not exactly an unknown phenomenon in etymological dictionaries!) In the case at hand the etymology is apparently restricted to the three branches of Northern Amerind—Almosan-Keresiouan, Penutian, and Hokan—and thus constitutes one of the pieces of evidence for this higher-level grouping. The original meaning, SMELL BAD/STINK, is preserved either exclusively or in part in all three subgroups of Northern Amerind. In Hokan the meaning is uniformly STINK or SMELL; in Penutian and Almosan-Keresiouan, forms with the meanings DIRTY and BAD are cited alongside others meaning STINK or SMELL. All three branches suggest an original form containing three consonants, *M-T-K, the second of which has been assimilated to t^s , \check{c} , s , or \check{s} in quite a few languages, no doubt under the influence of a following palatal vowel that is preserved in some of the languages. Thus a form such as *MATIK would constitute a reasonable hypothesis for the original phonetic shape, and such a form is virtually identical with the attested Shasta form *(ku-)matik'(-ik)* 'it stinks.' The presence of either a glottal stop or glottalized consonant is also characteristic of the root in question, but its original locus is hard to pinpoint. Taken all in all, the thirty forms cited in the etymology are sufficiently similar in sound and meaning that few linguists would be so rash as to reject the entire etymology. One may quibble over certain parts of an etymology, but such loose ends, particularly in a pioneering work like Greenberg's, hardly invalidate the core of the etymology.

Goddard's second criterion invalidates 21 etymologies that involve Blackfoot but no other Algonquian language. By his lights, such roots cannot be reconstructed for Proto-Algonquian and hence are not available for comparison further afield. In fact Blackfoot is, by Goddard's own admission, the most divergent Algonquian language, and the fact that it should have preserved certain roots that have been lost in the rest of the family is therefore not only not surprising, but exactly what one should expect. From *within* Algonquian, of course, it is impossible to tell which of these Blackfoot roots are innovations that serve to define Blackfoot as a distinct genetic group, and which are inheritances from Proto-Algonquian that have been lost elsewhere in the family. That distinction cannot be made without considering Algonquian *in a wider context*, as Greenberg has done, using the method known in biological taxonomy as out-group comparison. But instead of recognizing that Greenberg's methodology of multilateral comparison has revealed certain Blackfoot roots that must also have existed in Proto-Algonquian, even though they have left no trace elsewhere in the family, Goddard uses the isolated nature of the Blackfoot form to dismiss the entire etymology. A more egregious *non sequitur* one can scarcely imagine.

Just how silly Goddard's "methodology" is can be demonstrated by another example. One of the pieces of evidence that Sapir adduced in 1913 to connect Algonquian with Wiyot and Yurok was the resemblance of Blackfoot *(mo-)kíts(-is)* 'finger' and Wiyot *(mo-)kèc* 'fingers.' Sapir was so impressed by this correspondence that he mentioned it in a letter to Kroeber even before his article had appeared, with the comment: "Are these 'accidents'? Fiddlesticks!" (Golla 1984: 120). To Sapir's comparison Greenberg added the Yurok form *(cey-)ketew* '(little) finger,' as well as Salish forms such as Squamish *čis* 'hand.' Goddard rejects the entire etymology, and many other cogent etymologies, simply because the form in question cannot be reconstructed for Proto-Algonquian. For Goddard, such striking lexical resemblances are mere coincidences not requiring historical explanation. But were we to accept his methodology, we could no longer compare even Wiyot *kɬæɬ-* 'to ask' with Kutenai *akɬeɬ* 'to ask,' because the former cannot be reconstructed for Proto-Algic. For Goddard, then, Greenberg's book is simply one remarkable coincidence after another, all without historical import. Also coincidental must be the high degree of correlation between linguistic taxa and biological taxa, including an Amerind group distinct from the rest of the world's populations.⁹ Perhaps coincidental as well is the fact that a statistical analysis of the distribution of Greenberg's Amerind etymologies produces a subgrouping and mapping of the eleven Amerind subgroups that are highly plausible on geographical grounds (see Ruhlen 1991).

The example above is symptomatic of the many erroneous methodological pronouncements that Goddard proffers in his review of Greenberg's book. He also instructs us that "even stricter guidelines are obviously necessary in proposing comparisons between languages whose relationship is in question" (1987a: 657). Again, he claims that "[h]istorical method requires that the facts of each subgroup or family be established separately before being compared with each other. Hence, while Algonquian **neθk-* ['arm, hand'] and Northern Iroquoian *nētsh* ['arm'] may properly be compared, if desired, forms descended from these may not" (1987: 657). First, this proclamation is not true; and second, it violates the very point that Goddard is trying to make. Surely he does not believe that each branch of Indo-European was established separately before being compared with other branches. And why is he comparing *Northern* Iroquoian with *Algonquian*? Both of these are intermediate nodes (Algonquian under Algic and Northern Iroquoian under Iroquoian), precisely the sort of elements he claims cannot be compared! Had he claimed that only

⁹ See Cavalli-Sforza et al. 1988. The Diffusionist position has always been associated with the belief, expressed by Campbell (1986: 488), that "there is no deterministic connection between language and gene pools." Geneticists, such as Trombetti (1905: 55), have long realized that "agreement between language and race is the rule. Disagreement is the exception."

Algic can be compared with Iroquoian, at least the illustration of his principle would have been aptly selected, even if the principle itself were not. How he *should* be proceeding has been lucidly explained by Proulx: "When both PA [Proto-Algonquian] and Proto-Algic forms are reconstructed from a single pair of cognates (e.g. Menominee and Yurok), the PA reconstruction is *not* logically prior to the Proto-Algic one. The attested forms are constants, the reconstructed ones interdependent variables. . . . [T]he reconstructed forms are not evidence for each other; both depend on the attested ones. The data are scantier in such cases than in most, but this is only a matter of degree" (1984: 167).

Goddard dismisses other etymologies in *Language in the Americas* for a variety of reasons, some as trivial as the misidentification of a language. No doubt he has uncovered some flaws in Greenberg's Algonquian data, as any specialist would in a work of this breadth, but in no case can these imperfections alone be taken as invalidating an entire etymology. An interesting example is Amerind etymology No. 85 (DIRTY), which Goddard rejects for its "looseness" under the criterion of semantic similarity. The meanings he cites from this etymology—'excrement', 'night,' and 'grass'—do seem an unusual combination, and their conjunction provoked a tittering in the audience at his lecture. But an examination of the whole etymology reveals quite a different story. First of all we find, contrary to Goddard's semantic characterization, that this etymology is not about feces, but about color, specifically the area of the spectrum encompassing black and green. In Almosan the meaning is uniformly BLACK and, as we shall see, the distribution of the various meanings throughout North and South America suggests that this was the original meaning. Keresiouan shows both DARK IN COLOR (Iroquoian) and GREEN (Keresan). In Penutian the meaning has shifted completely to GREEN and its close semantic connections GRASS and BLUE; the original meaning of BLACK/DARK is not attested. In South America, Macro-Tucanoan preserves the original meaning of BLACK in Proto-Ge **tik*, but in Cayapo and Chiquito the meaning has shifted to DIRTY. Finally, in the Equatorial group the meaning is uniformly EXCREMENT. Phonetically, the original form was probably similar to Chiquito *tuki*, though Penutian and Almosan forms raise the possibility that one of the consonants was originally an ejective. Paralleling Penutian's semantic divergence (BLACK > GREEN) is the presence of a reduplicated stem in the Plateau, California, and Mexican subgroups (e.g. North Sahaptin *tʰəktʰək*, Rumsien *čuktuk*, Zoque *tʰuhtʰuh*).¹⁰

¹⁰ Campbell (1988: 600) also criticizes Greenberg's etymologies as "quite permissive in semantic latitude. Semantic equations such as the following are not convincing: 'excrement/night/grass,' And these are only some of G[reenberg]'s unconvincing semantic equations."

We can see now how Goddard's analysis proceeds. By failing to mention the fundamental meaning of an etymology, and citing only semantic extensions from this unnamed core, he makes it appear that Greenberg has combined meanings in an arbitrary and capricious fashion. When the whole etymology is examined, however, Goddard's shabby trick is revealed, and the semantic cohesiveness of the entire etymology can hardly be doubted. In resorting to such tactics, Goddard simply reveals the weakness of his own position.

THE VERDICT

In many respects the Diffusionist critique has remained constant from Michelson to Goddard, its chief ingredients being a list of errors (real or imagined), an allusion to accidental resemblances and borrowings, a willful disregard of the most convincing positive points, a dose of taxonomic nonsense, and often an appeal to authority. The current crop of Diffusionists seldom fails to mention "how far outside the mainstream Greenberg's work lies" (Golla 1988: 434) or that "most scholars in native American comparative linguistics regard Greenberg's methodology as unsound" (Bright 1988: 440). Both statements are of course true, but that they *are* true is irrelevant to the truth or falsity of Greenberg's claims. When his work in African classification appeared, almost four decades ago, it was just as far outside the mainstream. And in retrospect it should not be surprising that the foremost Bantuist of the day, Malcolm Guthrie, vehemently rejected Greenberg's proposal that the Bantu family was a relatively minor branch in a larger Niger-Congo family. Though an expert in some family would seem to be in the best position to judge whether or not that family is related to some other family, in practice such experts are often the least receptive to new relationships, as the examples of Michelson, Guthrie, and Goddard demonstrate. Similarly, Indo-Europeanists (with a few notable exceptions) are notorious for their dogmatic denial that Indo-European has any known relatives, a position held despite the overwhelming evidence to the contrary adduced by the Nostratic school and others. At the turn of the century Henry Sweet characterized the narrow-mindedness of Indo-Europeanists in terms that apply equally well to today's Diffusionists:

In philology, as in all branches of knowledge, it is the specialist who most strenuously opposes any attempt to widen the field of his methods. Hence the advocate of affinity between the Aryan [= Indo-European] and the Finnish [= Finno-Ugric] languages need not be alarmed when he hears that the majority of Aryan philologists reject the hypothesis. In many cases this rejection merely means that our specialist has his hands full already, and shrinks from learning a new set of languages. . . . Even when this passively agnostic attitude develops into aggressive antagonism, it is generally little more than the expression of mere prejudice against dethroning

Aryan from its proud isolation and affiliating it to the languages of yellow races; or want of imagination and power of realizing an earlier morphological stage of Aryan; or, lastly, that conservatism and caution which would rather miss a brilliant discovery than run the risk of having mistakes exposed. [1901: vi]

The most telling datum favoring the Amerind phylum was discovered independently by several different scholars, including Trombetti, Sapir, Swadesh, and Greenberg.¹¹ They all noticed that first-person *n*- and second-person *m*-seemed to characterize American Indian languages from Canada to the tip of South America. Since these two pronouns are known to be among the most stable items in language (see Dolgopolsky 1964), and are rarely borrowed, their broad distribution throughout the New World, as impossible to overlook as a herd of buffalo, has always constituted an inescapable problem for the Diffusionists. Boas attributed the prevalence of these two pronouns in Amerindian languages to "obscure psychological causes"; today's Diffusionists call them "Pan-Americanisms."¹² Both terms are simply euphemisms for the proscribed word "cognate"; for the Diffusionists, cognates exist only within homogeneous low-level groups like Algonquian, Siouan, and Salish. For apparent cognates between distantly related groups, almost any explanation, no matter how implausible, is seemingly to be preferred to the simple and obvious explanation of common origin.¹³ Thus, Bright proposes that "Pan-Americanisms" arose in Asia through borrowing among different Amerind groups *before these distinct groups migrated to the New World*:

I would not be opposed to a hypothesis that the majority of the recognized genetic families of American Indian languages must have had relationships of multilingualism and intense linguistic diffusion during a remote period of time, perhaps in the age when they were crossing the Bering Straits from Siberia to Alaska. We can imagine that the so-called pan-Americanisms in American Indian languages, which have attracted so much attention from "super-groupers" like Greenberg, may have originated in that period. [1984: 25]

Such a scenario would have required a traffic controller at the Bering land bridge, checking the would-be immigrants for the proper "Pan-Americanisms" before admitting them to the New World.

In sum, the evidence that Greenberg adduces for the Amerind phylum is at least as strong as that offered by Sapir for Algonquian-Ritwan, and consid-

¹¹ See Ruhlen 1987 for a discussion of this point.

¹² They really should be called "Pan-Amerindisms" since they usually exclude Na-Dene and Eskimo-Aleut. The fact that the Amerind phylum occupies so much of North and South America has so far permitted the Diffusionists to perpetrate this linguistic sleight of hand unchallenged.

¹³ Cf. Campbell (1988: 597): "those similarities which may *possibly* [my emphasis] have an explanation other than common ancestry must be set aside."

erably stronger than the evidence Greenberg presented for his African classification, *now universally accepted*. The Amerind phylum is well-defined and amply supported; its validity as a linguistic taxon is firmly established; and in time *Language in the Americas* will be hailed as a monumental achievement. The outrageously vituperative attack on the Amerind phylum by the Diffusionists reflects their blind prejudice, their basic ignorance of the fundamental principles of genetic classification, and perhaps, understandably, an apprehension of redirected research. Appeals to authority and group solidarity cannot save the Diffusionist position, which, after almost a century of dominance in Amerindian comparative linguistics, is finally fading into the night.

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A Semantic Index to Greenberg's Amerind Etymologies

In *Language in the Americas* (1987) Joseph Greenberg presented over 2,000 etymologies in support of the Amerind family and its eleven subgroups. Each etymology was identified by an English gloss, but no comparable phonetic gloss was given. Since it is useful to have both a semantic gloss and a phonetic gloss in identifying an etymology, I first added phonetic glosses to all the etymologies and then alphabetized this semantic index. The index allows one to see at a glance which phonetic shapes are associated with which meanings in the Amerind family. Consideration of this list has led me to conclude that in a fair number of cases Greenberg should have combined etymologies from different Amerind subgroups into additional, more comprehensive Amerind etymologies (see Chapter 8 of the present volume).

This chapter presents, then, a complete semantic index to the 2,003 Amerind etymologies contained in Greenberg's book. Each entry consists of (1) a semantic gloss, (2) a phonetic gloss, and (3) the etymology number. For grammatical etymologies the distribution of the etymology is also indicated. In addition, some suggestions of possible overlap or further consolidation are indicated after certain etymology numbers. The following abbreviations are used: A: Amerind, AK: Almosan-Keresiouan, P: Penutian, H: Hokan, CA: Central Amerind, CP: Chibchan-Paezan, AN: Andean, E: Equatorial, MT: Macro-Tucanoan, MG: Macro-Ge, MP: Macro-Panoan, MC: Macro-Carib, G: grammar section (in Chapter 5 of Greenberg). For Amerind etymologies (i.e.

those etymologies that include at least two Amerind subgroups) the semantic gloss is given in boldface type; etymologies restricted to one Amerind subgroup are given in plain roman type. For example, "ASK *kʰal* AK10" means that Greenberg's tenth Almosan-Keresiouan etymology associates the meaning 'ask' with the phonetic form *kʰal*; "ANGRY *iri* A4" indicates that Amerind etymology No. 4 associates the meaning 'angry' with the phonetic form *iri*; and "AUNT *pan* AN9; =CA1; =MP63" means that Andean etymology No. 9 associates the meaning 'aunt' with the phonetic form *pan*, and furthermore that this particular sound/meaning relationship is similar to that posited by Greenberg for Central Amerind etymology No. 1 and Macro-Panoan etymology No. 63. Finally, "ACCUSATIVE *s* G42 [P]" means that Greenberg's grammatical etymology No. 42 (in his Chapter 5) is an accusative marker *s* that appears to be restricted to the Penutian branch of Amerind. The subscripts on the meaning glosses may seem, at first sight, confusing. For example, for the gloss DANCE, two entries have no subscript, three have the subscript 1, and three have the subscript 2. This is, however, simply a reflection of the fact that different branches of Amerind have different words for DANCE, and some branches have more than one.

The index follows:

ABLE, TO BE <i>nako</i> AK1	ALL ₂ <i>pa</i> AN2; cf. P86
ABLE, TO BE <i>tama</i> P1	ALL ₂ <i>taki</i> E3
ABLE, TO BE <i>wan</i> MP1	ALL ₃ <i>kʷet</i> AK4; cf. P3
ABOVE <i>hawi</i> H1	ALL ₃ <i>mal</i> P5
ABOVE <i>kalu</i> CP1; =A147	ALLATIVE <i>be</i> G50 [MP]
ABOVE <i>lal</i> P2	ALLATIVE <i>ki</i> G45 [A]
ABOVE <i>meme</i> E1; =A148	ALLATIVE <i>le</i> G51 [MP]
ABOVE ₁ <i>itai</i> A1	ANGRY <i>kaʔ</i> P6
ABOVE ₂ <i>apak</i> A2; cf. MT66	ANGRY <i>iri</i> A4
ABOVE ₃ <i>araka</i> A3	ANGRY <i>xut</i> AN3
ACCUSATIVE <i>s</i> G42 [P]	ANIMAL <i>aka</i> H3
ADJECTIVAL <i>ki</i> G66 [A]	ANIMAL <i>sikok</i> MP2
ADJECTIVAL <i>m</i> G67 [H]	ANSWER <i>kama</i> MP3
ALL <i>pota</i> MG1; =E78	ANSWER <i>nek</i> AK5
ALL <i>pu</i> H2; =E79	ANT <i>bohu</i> CP2
ALL ₁ <i>kape</i> AK2	ANT <i>putu</i> MG2
ALL ₁ <i>kuš</i> P3; cf. AK4	ANT <i>tenu</i> MC1
ALL ₁ <i>pilo</i> AN1	ANT ₁ <i>tai</i> A5
ALL ₁ <i>tina</i> E2	ANT ₁ <i>tapu</i> E4
ALL ₂ <i>aukʷ</i> AK3	ANT ₂ <i>mani</i> E5
ALL ₂ <i>muma</i> P4	ANT ₂ <i>tʰakon</i> A6

- ANUS *kote* AN4; =CP3
 ANUS *kut^o* CP3; =AN4
 ANUS *wexa* MP4
 ARM *kwala* CP4; cf. H5
 ARM *nanu* E6
 ARM *pala* AN5
 ARM *take* MT1
 ARM *wasi* P7; =AN53
 ARM₁ *kin* AK6
 ARM₁ *lak* H4
ARM₁ *pok* A7; =MT46; =P214
 ARM₂ *galu* H5; cf. CP4
 ARM₂ *nak* AK7; =A8
ARM₂ *nok'o* A8; =AK7
 ARMPIT *dama* H6
 ARRIVE *nes* AK8
ARRIVE *pi* A9; =CP34;
 =MC24; =MG115
 ARRIVE *wal* P8; =H49
 ARROW *kani* CP5
 ARROW *kawi* AK9
ARROW *mã* A10
 ARROW *nuk* P9; =E113
 ARROW *pan* MG3
 ARROW *sawa* H7
 ARROW₁ *ajaku* AN6
 ARROW₂ *el* AN7
 ASHES *auxe* AN8; =H61
 ASHES *nuka* MT2
 ASHES *pot* P10
ASHES *puli/pok* A11; =P58
 ASHES *tap* H8
 ASK *kłal* AK10
ASK₁ *mat^a* A12
ASK₂ *tempa* A13
AUNT *(i)nan* A14; =MP46
 AUNT *manku* CP6
 AUNT *mut* H9
 AUNT *pan* AN9; =CA1; =MP63
 AUNT *pan* CA1; =AN9; =MP63
- AUNT *teke* MT3
 AUNT *toje* MG4
 AWAKE *nom* MP5
 AWAKE₁ *tenga* CP7
 AWAKE₂ *kup* CP8
 AXE *boko* CP9
 BACK *išak* AN10
 BACK *pani* MG5; =CP14
 BACK *puka* MP6
 BACK *wak* P11
 BACK *čepa* E7
 BACK₁ *čom* H10
BACK₁ (n.) *iki* A15
 BACK₂ *maki* H11; =CP190
BACK₂ (n.) *kana* A16; =AK6;
 =CP4
 BACK (N.) *tan* CA2
 BAD *ašia* AK11
 BAD *boxe* E8
 BAD *kat* P12
 BAD *pat^s* CP10
 BAD *čepa* AN11
 BAD *čoj* MP7
BAD₁ *kalen* A17
BAD₂ *čaka* A18
 BARK (SKIN) *ko* CA3
 BARK (SKIN) *kuri* MT4
 BARK (SKIN) *pai* MG6; =AN102
BARK (SKIN) *pel* A19
 BARK (SKIN) *šu* P13; =H130;
 =MT81
 BAT *jo* MT5
 BAT *kasi* MP8; =A190; =AK130
 BAT *tⁱikt^sik* AN12; cf. AK22
 BATHE *ama* AN13
 BATHE *oka* CP11; =P269
BATHE *puk* A20; =H157;
 =MP59; =AK77
 BATHE *wã* AK12
 BE *hi* MP9; cf. AK13

- BE *ke* AN14; =H128; =AK171;
cf. P217
- BE *ʔi* AK13; cf. MP9
- BE₁ *upi* A21
- BE₂ (a)t'a A22
- BEAR₁ (N.) *maki* AK15
- BEAR₂ (N.) *nume* AK16
- BEAR (V.) *kat* H12
- BEAR (V.) *koj* MP10
- BEAR (V.) *mate* E9
- BEAR (V.) *to* CP12
- BEAR (V.) *wij* AK14
- BEAR (V.) *ʔa* A23
- BEARD *amu* AN15
- BEARD₁ *p'oti* A24; =A108;
=CA45; =E42
- BEARD₂ *tuk* A25
- BEAT *pok* P14; =CA47
- BEAUTIFUL *k'ača* AN16; =AN48
- BEAUTIFUL *kali* P15; =MC2;
=AK88; =H75
- BEAUTIFUL *kule* MC2; =P15;
=AK88; =H75
- BEAUTIFUL *noa* MT6
- BEAUTIFUL₁ *pai* MG7; =CP86
- BEAUTIFUL₂ *pati* MG8
- BEAVER *mek* AK17
- BEE *iko* MT7
- BEE *wali* CP13
- BEE₁ *pana* A26
- BEE₂ *mumu* A27; =MG117;
cf. AK79
- BEFORE *nahi* MP11
- BEGIN *ka* AK18
- BEHIND (a)pi A28
- BEHIND *ino* AK19; =E110
- BEHIND *mina* H13
- BEHIND *mow* MC3
- BEHIND *pene* CP14; =MG5
- BELLY *bi* CP15; =CA9
- BELLY *kuax* H14
- BELLY *nion* MG9; =MT18
- BELLY *sehi* CA4; =AK33
- BELLY₁ *kata* E10; =A29
- BELLY₁ *kate* A29; =E10
- BELLY₁ *taʔča* AK20; =A59;
=H24
- BELLY₂ *ika* E11
- BELLY₂ *naki* AK21
- BELLY₂ *palin* A30; =AK43
- BELLY₃ *mat* A31
- BELLY₄ *to* A32
- BIRD *kaču* AN17
- BIRD *tʰuri* CP16
- BIRD *tu* CA5
- BIRD₁ *mila* MT8
- BIRD₁ *tʰitʰipe* AK22; cf. AN12
- BIRD₂ *iki* MT9; cf. P84
- BIRD₂ *riʔt* AK23
- BITE *era* CP17
- BITE *esa* E12
- BITE *k'am* AK24
- BITE *kašat* P16
- BITE *pro* MG10
- BITE₁ *kua* A33
- BITE₂ *tak* A34
- BITTER *koro* MG11
- BITTER *saken* AK25
- BITTER₁ *paska* A35; =MP58
- BITTER₂ *tʰah* A36
- BLACK *him* MG12
- BLACK *kata* P17; cf. A200;
cf. AN27
- BLACK *mai* H15
- BLACK *mekoro* MC4
- BLACK *tuni* MT10; cf. CP19
- BLACK₁ *pol* A37; =CP18
- BLACK₁ *pola* CP18; =A37
- BLACK₁ *sinka* E13
- BLACK₂ *k'ara* A38

- BLACK₂ *ko* E14
 BLACK₂ *turi* CP19; cf. MT10
 BLACK₃ *sakua* E15; =A85
BLACK₃ *tu* A39; ?=A85
 BLADDER *koro* E16
 BLOOD *akuat* H16
 BLOOD *aru* CP20
 BLOOD *ku* MG13
 BLOOD *unaka* AN18
 BLOOD *wo* MP12; =E18
 BLOOD₁ *ira* E17
 BLOOD₁ *konia* MT11
BLOOD₁ *pile* A40
 BLOOD₁ *pot^sik* P18; =AK157
 BLOOD₂ *deu* MT12
BLOOD₂ *meʔi* A41
 BLOOD₂ *wi* E18; =MP12
 BLOOD₂ *ʔati* P19
 BLOOM *pak* P20; =AK78
 BLOW *pusuk* H17; =A42; =AK26
BLOW *puti* A42; =AK26; =H17
 BLOW *pōta* AK26; =A42; =H17
 BODY *jaʔ* AK27
 BODY *kakua* CP21
 BODY *mata* H18; =A185
 BODY *tap* MP13
 BODY *wal* P21
BODY₁ *piʔ* A43; =MT13
 BODY₁ *upi* MT13; =A43
BODY₂ *ime* A44
 BODY₂ *paka* MT14
 BOIL *ise* CP22
 BOIL *mok^w* AK28; =A73
 BOIL *saʔ* CA6
BOIL *t^lok* A45; =AK206
 BOIL₁ *mul* H19; =H26
 BOIL₁ *šox* P22
 BOIL₂ *kok* P23; =MT23
 BOIL₂ *pot* H20
 BONE *ija* H21
 BONE *kuk* MG14
 BONE *t'umak* AK29
 BONE *ta(n)ku* E19
 BONE *uino* MT15
BONE₁ *tui* A46; cf. MG58
 BONE₁ *čote* CP23
 BONE₂ *dita* CP24
BONE₂ *tiaki* A47
BONE₃ *ipi* A48
 BOW (N.) *poko* MT16; =A157
 BOW (N.) *taku* MC5
 BOY *očo* CP25
 BOY *puč* P24
 BOY *tu* CA7
 BOY *wila* AN19
 BRANCH *polo* MC6
 BREAD₁ *čene* H22
 BREAD₂ *las* H23
BREAK *k'at'i* A49; =MP20;
 =MG70
 BREAK *peto* E20
 BREAK *pok* MP14
 BREAK *t^ha* CA8
 BREAK₁ *tepa* AK30
 BREAK₂ *tak* AK31; =A149
BREAST *k'amin* A50
 BREAST *maku* AN20
 BREAST *mana* MC7
 BREAST *neme* MP15
 BREAST *pin* CA9; =MT17;
 =CP15
 BREAST₁ *at^siki* H24; =A59;
 =AK20
 BREAST₁ *puen* MT17; =CA9;
 =CP15
 BREAST₁ *tali* AK32; =CP30;
 =CP131
 BREAST₁ *ču* P25; =H25; =P107;
 =CP98
 BREAST₂ *muš* P26

- BREAST₂ *nano* MT18; =MG9
 BREAST₂ *ŋiču* H25; =P25;
 =P107; =CP98
 BREAST₂ *si* AK33; =CA4
 BREATHE *ake* MG15
 BRING *mana* MT19
BRING *tuk* A51
 BRING₁ *u* P27
 BRING₂ *mah* P28
 BRING₃ *iki* P29
 BROAD *paki* AK34
BROAD *pat^la* A52
 BROAD *tape* P30
 BROAD *wanka* E21
 BROTHER *azot* AN21
 BROTHER *kani* MP16; =AN101
 BROTHER *pali* E22
BROTHER *papi* A53
 BROTHER *sin* CP26
 BROTHER *tat* AK35
 BROTHER₁ *ton* MG16
 BROTHER₂ *kejak* MG17
 BROTHER (OLDER) *akti* P31
 BUFFALO *kun* CA10
 BURN *huli* P32; =P78
 BURN *hōi* MT20
 BURN *konio* AN22
 BURN *ko?* CA11; =AK37
 BURN *pok* MG18; =CP105;
 =CP109
BURN *tuke* A54; =A251;
 =AK108; cf. P285
 BURN₁ *mali* H26; =H19
 BURN₁ *tapi* E23
 BURN₁ *ton* AK36
 BURN₁ *tuli* CP27
 BURN₂ *k'o* AK37; =CA11
 BURN₂ *kara* E24
 BURN₂ *pi* H27
 BURN₂ *čipa* CP28
 BURY *ake* CP29
 BURY *ja* CA12
 BURY *muke* P33
 BUTTOCKS *teli* MC8
 BUTTOCKS₁ *tuxki* AK38
 BUTTOCKS₂ *ūse* AK39
 BUY *taw* AK40; =CA13
 BUY *te* CA13; =AK40
 CALF *ila* E25
 CALL *jat* AK41
 CALL *kai* MG19
CALL₁ *(a)nik* A55
CALL₂ *pai* A56
 CARRY *neku* AK42
CARRY₁ *apa* A57
CARRY₂ *ko(n)* A58
 CAUSATIVE *atu* G92 [A]
 CAUSATIVE *ma* G93 [A]
 CAUSATIVE *n* G95 [P]
 CAUSATIVE *s* G94 [AK]
 CHEEK *al* P34
 CHEEK *mone* MT21
 CHEEK *pako* MC9; =H28
 CHEEK *poke* H28; =MC9
 CHEST *p'ala* AK43; =A30
 CHEST *pekua* MC10; cf. CP170
 CHEST *tala* CP30; =CP131;
 =AK32
 CHEST *tomin* P35
CHEST *tuki* A59; =H24; =AK20
CHEW *kan* A60
 CHEW *peki* CP31
 CHIEF *peru* E26
 CHILD *ksi* AK44; =P88; =H29;
 =A281
 CHILD *kuto* H29; =P88; =AK44;
 =A281
CHILD₁ *(a)nu* A61; =MP57
 CHILD₁ *saka* P36
 CHILD₂ *kil* P37

- CHILD₂** *makin* A62
CHILD₃ *ka* P38
CHILD₃ *pan* A63
CHILD₄ *ʔali* A64
CHIN *taki* CP32
CLASSIFIER (ROUND OBJECTS) *kwa*
 G40[CP]
CLASSIFIERS *aʔ/he/o* G107 [AK]
CLEAN *kurin* MG20
CLEAN (v.) *t^suk^wa* A65
CLIMB *man* H30
CLOSE₁ (v.) *je* CA14
CLOSE₂ (v.) *ku* CA15; cf. P109
CLOSE (v.) *apu* MC11
CLOSE (v.) *bi* MT22
CLOSE (v.) *k'ap'a* A66
CLOSE (v.) *kaska* AK45
CLOSE (v.) *pan* P39; =MP17
CLOSE (v.) *pone* MP17; =P39
CLOUD *kuma* CP33
CLOUD *poʔtit* P40; cf. E59
CLOUD₁ *anek^wa* AK46
CLOUD₁ *talū* A67
CLOUD₂ *pa(n)k* A68
CLOUD₂ *waʔn* AK47
COLD *kere* MG21
COLD *t^staje* AK48
COLD *tal* AN23
COLD *tātu* P41
COLD₁ *duha* E27; cf. CA18
COLD₁ *k^wi* CA16; =MP19
COLD₁ *mati* MP18
COLD₁ *t^sanik* A69
COLD₂ *it'ak'* A70
COLD₂ *koi* MP19; =CA16
COLD₂ *t^sia* CA17; =E28
COLD₂ *čiwa* E28; =CA17
COLD₃ *hipe* E29
COLD₃ *kat^sa* A71; =AN44
COLD₃ *to* CA18; cf. E27
COME *antoi* P42
COME *kem* CA19
COME *nani* A72
COME₁ *akwa* AN24; cf. P187
COME₁ *ape* CP34; =A9; =MC24;
 =MG115
COME₁ *how* AK49; =CP37
COME₂ *pusa* AN25
COME₂ *ta* CP35; =H74
COME₂ *wa* AK50; =E48; =H72
COME₃ *taka* CP36; cf. P189
COME₄ *hau* CP37; =AK49
CONTINUATIVE *ala* G76 [P]
CONTINUATIVE *is* G70 [A]
COOK *kako* MT23; =P23
COOK *kino* E30
COOK *maki* A73; =AK28
COOK *siqa* AK51
COOK₁ *jok* P43
COOK₁ *nina* CP38
COOK₂ *hari* CP39
COOK₂ *om* P44
COOK₃ *hona* P45
COUNT *pe* CA20
COVER *iti* P46
COVER *mi* MG22
COVER₁ *t^siko* H31; =CP40;
 =H58; =MG31
COVER₂ *sape* H32; cf. CP73
COVER (v.) *ma* CA21
COVER (v.) *taku* CP40; =H31;
 =H58; MG31
COVER (v.) *tumpa* A74; =A80;
 =CP83; =MP30
CROCODILE *lampa* CP41
CROCODILE₁ *min* MG23
CROCODILE₂ *ai* MG24
CROOKED *kotun* AK52; =P62;
 =P63; =CP61
CROOKED *ton* MG25

- CRUSH *ju* CA22
 CRY *poa* MG26; =H34
CRY *wuni* A75
 CRY₁ *mika* H33
 CRY₁ *waka* P47
 CRY₂ *jau* P48
 CRY₂ *?ipia* H34; =MG26
 CUT *ki* MG27
 CUT *t'an* CA23
 CUT *četa* MP20; =MG70; =A49
 CUT₁ *pala* P49
 CUT₂ *top* P50
 DANCE *nan* CA24
 DANCE *taki* AN26
 DANCE₁ *bak* MT24
 DANCE₁ *para* CP42
 DANCE₁ *wehte* P51
 DANCE₂ *bit* P52
 DANCE₂ *tara* MT25; =CP43
 DANCE₂ *telake* CP43; MT25
 DARK *kaši* AN27; =A200; cf. P17
 DARK *pe* MP21
DARK *t'umak* A76
 DATIVE *ja* G44 [CP]
 DATIVE *taki* G43 [AN]
 DAUGHTER *pača* CP44
 DAY *ibi* H35
 DAY *jua* CP45
 DAY *pine* E31
 DAY *tū* MG28; =H141
 DEEP *ka* MT26
 DEER *ao* H36
 DEER *jama* MT27
 DEER *kotu* MC12; cf. H41
 DEER *mana* CP46; cf. AN60
 DEER *tek* AK53; =CA25; A78
DEER₁ *sula* A77
 DEER₁ *te* CA25; =AK53; =A78
 DEER₂ *pa* CA26
DEER₂ *ta?* A78; =AK53; =CA25
 DEFECATE *iku* MG29
 DENT (V.) *kol* H37
DESIDERATIVE *he* G82 [A]
 DESIDERATIVE *no* G83; =AN125 [MP]
 DESIDERATIVE *čili* G85 [H]
 DIE *kama* H38
 DIE *pe* CA27; =A155; =P14; =MG69; cf. AK54
 DIE₁ *koli* AN28
DIE₁ *maki* A79
 DIE₁ *otaw* P53
 DIE₁ *up* AK54; =CA27; cf. A155; cf. P14; cf. MG69
 DIE₂ *hen* P54
 DIE₂ *lakatu* AN29
 DIE₂ *nep* AK55
DIE₂ *tampa* A80; ?=A74; =CP83; =MP30
 DIE₃ *tšok* P55; =P129
DIE₃ *ti* A81
 DIG *mena* CP47
 DIG *po* H39
 DIG *tiho* MP22
 DIG *?uhu* MT28
DIG₁ *(o)kua* A82
DIG₂ *tik* A83
DIG₃ *wali* A84
 DIRTY *pel* H40; =CP58
DIRTY *tuki* A85; ?=A39; =E15
 DIRTY₁ *toaken* CP48
 DIRTY₂ *uli* CP49; =A94
 DIVE *mučix* P56
DOG *(a)k'uan* A86
 DOG *ba* MG30
 DOG *haju* MT29
 DOG *hoko* MC13
 DOG *kuču* H41; cf. CA28; cf. MC12

- DOG *nuk* MP23
 DOG *sa* P57
 DOG *t^su* CA28; cf. H41
 DOG *tija* AK56
 DOG *wera* CP50
 DOOR *t^siki* MP24
 DREAM *neka* MC14
 DREAM₁ (V.) *maka* H42
 DREAM₂ (V.) *xada* H43
 DRESS *taku* MG31; =CP40;
 =H31; =H58
 DRESS (V.) *ira* E32
 DRESS (V.) *tula* MP25
 DRINK *ʔit^si* H44; =P272;
 =MT100
 DRINK₁ *aquna* A87; =MG118;
 =AK185
 DRINK₁ *kuti* CP51; =MG33;
 =AN121; =E64
 DRINK₁ *čop* MG32
 DRINK₂ *asi* CP52
 DRINK₂ *kotu* MG33; =CP51;
 =AN121; =E64
 DRINK₂ *ula* A88
 DRINK₃ *me* A89; =CP211;
 =E125
 DRINK₃ *to* CP53
 DRY *amo* MT30
 DRY *jim* MP26; =MP27
 DRY₁ *paki* A90
 DRY₂ *ana* A91
 DUAL *si* G29 [A]
 DURATIVE *ke* G72 [C]
 DURATIVE/PUNCTUAL *a/i*
 G73 [A]
 DUST *api* H45; =A92; =CP76
 DUST *pe* A92; =H45; =CP76
 DUST *pol* P58; =A11
 EAGLE *kawi* E33
 EAR *bia* MG34
 EAR *kamo* A93
 EAR *kuñi* E34; cf. P106
 EAR *mat* P59
 EAR₁ *jam* CP54
 EAR₁ *t'eni* AK57; =A146
 EAR₂ *apa* AK58; =MG61
 EAR₂ *kuru* CP55
 EAR₃ *kukati* CP56
 EARTH *fe* MG35
 EARTH *ki* ÇA29
 EARTH *ñohe* MC15
 EARTH₁ *bate* MT31; =AN32
 EARTH₁ *ila* A94; =CP49
 EARTH₁ *kat^si* CP57
 EARTH₁ *wiši* AN30
 EARTH₂ *kake* MT32; =CP59
 EARTH₂ *pile* CP58; =H40
 EARTH₂ *tali* AN31
 EARTH₂ *tampi* A95
 EARTH₃ *ama* A96
 EARTH₃ *koka* CP59; =MT32
 EARTH₃ *put^sa* AN32; =MT31
 EARTH₄ *nanu* A97
 EARTH₄ *tui* CP60
 EAT *am* AK59; =H46; cf. AK131
 EAT *ama* H46; =AK59; cf. AK131
 EAT *ito?* P60
 EAT *miku* AN33; =A252
 EAT₁ *hura* E35
 EAT₁ *pa* A98
 EAT₂ *iu* E36; =A191
 EAT₂ *kuri* A99
 EAT₃ *añe* E37
 EGG *dia* MT33
 EGG *tini* E38
 EGG *wa* CA30
 EGG *čika* MG36
 EGG₁ *na* A100
 EGG₁ *nak^wika* AK60
 EGG₁ *piʔe* H47; cf. A253

- EGG₂ *lak* AK61
 EGG₂ *tompa* A101
 EGG₂ *?uruh* H48
 ELBOW *kuika* CP61; =P62;
 =P63; =AK52
 ELBOW₁ *tema* P61
 ELBOW₂ *čuk* P62; cf. CP61;
 cf. P63; =AK52
 ELBOW₃ *koče* P63; =P62;
 =CP61; =AK52
 EMPTY *jim* MP27; =MP26
 ENTER *eta* MC16
 ENTER *wul* H49; =P8
 ENTER *?oku* P64; =H73
 EVENING *kebo* CP62
 EVENING *najo* MC17
 EVENING *nak^{wa}* AK62
 EXCREMENT *ami* CP63
 EXCREMENT *name* MC18
 EXCREMENT *tin* P65
 EXCREMENT *waki* H50
 EXCREMENT₁ *pa* A102
 EXCREMENT₂ *(i)ta(h)* A103
 EXTINGUISH *čap* H51
 EYE *(i)to(?)* A104; =MG38
 EYE *hutⁱ* P66
 EYE *kepi* CP64
 EYE *nimi* MC19
 EYE *qali* AK63
 EYE *tel* AN34; =CP159; =P150
 EYE *tuki* E39; =MT34
 EYE₁ *keto* MG37
 EYE₁ *toke* MT34; =E39
 EYE₂ *into* MG38; =A104
 EYE₂ *tum* MT35
 EYE₃ *iku* MT36; =AK163
 FACE *paka* CP65
 FACE *sia* MT37
 FALL *kote* MG39
 FALL *mana* H52
 FALL *tik* A105; cf. P68
 FALL *wen* CA31
 FALL₁ *peta* P67
 FALL₂ *t^e* P68; cf. A105
 FALL₃ *tot* P69; =P124
 FAR *jo* CP66; =P70
 FAR *lu* AK64
 FAR *pali* A106
 FAR₁ *ja* P70; =CP66
 FAR₂ *wajat* P71
 FAT *ji* CA32
 FAT *pak* H53
 FAT *sē* AK65; cf. MG78
 FAT *tomp* MG40
 FAT₁ (N.) *tota* CP67
 FAT₁ (N.) *ñandi* E40; =A184
 FAT₂ (N.) *kio* CP68; MC20
 FAT₂ (N.) *mika* E41
 FAT (N.) *kehi* MC20; CP68
 FAT (N.) *minan* MT38
 FATHER *koko* H54; =A178
 FATHER *kuti* AN35; =P92; MT61
 FATHER *main* MT39
 FATHER *pais* P72
 FATHER *ta* CA33
 FEAR *k^wai?* AK66
 FEAR *kul* A107
 FEAR₁ *mole* P73
 FEAR₁ (V.) *nowa* MP28
 FEAR₂ *b'uk* P74; cf. MP34
 FEAR₂ (V.) *lako* MP29
 FEAR (V.) *mu* MT40
 FEAR (V.) *pe* CA34
 FEATHER *k^wan* AK67
 FEATHER *lia* P75; =AN52;
 =MG57
 FEATHER *pi* CA35; =A109
 FEATHER *poti* E42; =A108;
 =A24; =CA45
 FEATHER₁ *isak* H55

- FEATHER₁ *ja* CP69
FEATHER₁ *pal* A108; =A24;
 =CA45; =E42
 FEATHER₂ *kui* CP70
FEATHER₂ *pi* A109; =CA35
 FEATHER₂ *pomi* H56
 FEEL *pes* AK68
 FELLOW *wit* G56 [AL]
 FEMALE *marin* CP71
 FEMALE *tonton* MG41; =A125
 FEW *kre* MG42
 FIELD *sepa?* P76
 FIELD *?at^sa* AK69
 FIGHT *polo* H57
 FIGHT₁ *kaj* AN36
 FIGHT₂ *tok* AN37; =P110;
 =AK153
 FINGER *krai* MG43
 FINGER *pal* CP72
FINGER₁ *tik* A110
FINGER₂ *it^si* A111
 FINISH *hujo* AK70
 FINISH *sop* CP73; cf. H32
 FINISH *tump* MP30; =A74;
 =A80; =CP83
 FINISH₁ *toka* H58; =H31;
 =CP40; =MG31
 FINISH₂ *mama* H59
 FIRE *iso* E43; =AK73
 FIRE *kata* CP74; =A113
 FIRE *pa* CA36; =AK72
FIRE₁ *(i)ta* A112
 FIRE₁ *jim* P77
 FIRE₁ *man* H60; =A114
 FIRE₁ *q^wap* AK71
 FIRE₂ *hel* P78; =P32
FIRE₂ *kuti* A113; =CP74
 FIRE₂ *paj* AK72; =CA36
 FIRE₂ *?auho* H61; =AN8
 FIRE₃ *huk* P79
 FIRE₃ *is* AK73; =E43
FIRE₃ *ma* A114; =H60
 FIREWOOD *aina* MT41
FIREWOOD *apali* A115
 FIRST *is* AK74
 FISH *kami* MT42; =AN38; =E44
 FISH *mak* P80
 FISH *suma* AN38; =MT42; =E44
 FISH *top* MG44
 FISH *čima* E44; =MT42; =AN38
 FISH₁ *mema* AK75
 FISH₂ *k'at^si* AK76
 FLAT *pa* MG45
 FLAT *pana* AN39
FLEA *mak'in* A116
 FLEA *t^sat* P81
 FLEA *?epel* H62
 FLEA *čuka* CP75
 FLEA₁ *nane* E45
 FLEA₂ *kutipa* E46
 FLOAT *puk^wa* AK77; =A20;
 =H157; =MP59
 FLOUR *hui* MT43
 FLOUR *koni* MG46
 FLOUR *tu* CA37
 FLOUR₁ *apu* CP76; =A92; =H45
 FLOUR₂ *kač* CP77
 FLOWER *pak* AK78; =P20
 FLOWER *se* CA38
 FLOWER *tutu* CP78; =AN40
 FLOWER₁ *čukčuk* AN40; =CP78
 FLOWER₂ *akeše* AN41
 FLY₁ (n.) *k'umpa* A118
 FLY₁ (v.) *paš* P82
 FLY₂ (n.) *mulu* A119; ?=A189
 FLY₂ (v.) *kaj* P83
 FLY₃ (v.) *jaka* P84; cf. MT9
 FLY (N.) *mat^sok* AK79
 FLY (N.) *moka* MT44
 FLY (N.) *usi* CP79; =MT99

- FLY (V.) *he?* CP80
 FLY (V.) *lapa* AN42
 FLY (V.) *naj* MP31
FLY (V.) *t'a* A117
 FOG *mol* H63
 FOG *piu* AK80
 FOLLOW *note* AK81
 FOOD *sok* AN43
 FOOT *kin* AK82
 FOOT *kot^a* CP81
 FOOT *tapu* MC21
 FOOT₁ *emi* H64
FOOT₁ *peti* A120; =MC66
FOOT₂ *asi?* A121
 FOOT₂ *pel* H65
 FOREHEAD *imi* MC22
 FOREHEAD *pali* H66
FOREHEAD₁ *pe* A122
FOREHEAD₂ *koa* A123
 FOREST *anta* MG47
 FOREST *rampa* E47; =MT95;
 =MC71; =P235
 FORGET *xama* H67
 FREEZE *kosek* AN44; =A71
 FRIEND *meti* MG48
 FROG *wala* AN45
 FROG₁ *peri* MG49
 FROG₂ *ru* MG50
 FRONT *kan* CP82
 FRUIT *elaw* P85
 FRUIT *ta* MG51
FRUIT *teka* A124
 FRUIT *tu* CA39
 FULL *tompa* CP83; =A74;
 =MP30; =A80
 FULL₁ *pa* P86; cf. AN2
 FULL₁ *paka* H68
 FULL₁ *pana* AK83; =H69
 FULL₂ *mok* AK84
 FULL₂ *patki* P87
 FULL₂ *pena* H69; =AK83
 FUTURE (TENSE) *sa?* G84 [H]
FUTURE (TENSE) *ta* G81 [A]
 GALL *hipa* AN46
 GATHER *t^supi* CA40
 GIRL *kič* P88; =H29; =AK44;
 =A281
 GIRL *kuma* CP84
GIRL *t'una* A125; =E129;
 =MG41
 GIVE *i* MC23
 GIVE *pe* CP85
 GIVE₁ *kuč* P89; =AK93; =CP92
 GIVE₁ *?eka* H70
 GIVE₁ *?u* AK85
 GIVE₂ *aja* H71
 GIVE₂ *nak* AK86
 GIVE₂ *taut* P90
 GO *le* AK87
 GO *po* MC24; =A9; =CP34;
 =MG115
 GO *wai* E48; =H72; =AK50;
 =P267
GO₁ *(a)mina* A126
 GO₁ *wa* H72; =E48; =AK50;
 =P267
GO₂ *tem* A127
 GO₂ *?ax* H73; =P64
GO₃ *ja?* A128
GO₄ *ko* A129
 GO DOWN *kax* P91
 GO OUT *pore* E49; cf. MG92
 GO OUT *ta* H74; =CP35
 GO UP *kea* AN47
 GOOD *ajo* E50
 GOOD *kenax* H75; =AK88; =P15;
 =MC2
GOOD₁ *it^si* A130
 GOOD₁ *k'ača* AN48; =AN16
 GOOD₁ *kani* AK88; =H75; =P15;

- =MC2
 GOOD₁ *meka* MG52
 GOOD₁ *pui* CP86; =MG7
 GOOD₂ *ko* MG53
 GOOD₂ *lap* AN49
 GOOD₂ *t^saki* AK89
 GOOD₂ *t^sumpa* A131
 GOOD₂ *uwa* CP87
 GOOD₃ *malin* A132
 GRANDFATHER *apita* MC25;
 =AK90
 GRANDFATHER *bai* AN50
 GRANDFATHER *toi* MG54
 GRANDFATHER₁ *pit^somas* AK90;
 =MC25
 GRANDFATHER₂ *ikani* AK91;
 =P263
 GRANDMOTHER *kota* P92;
 =AN35; =MT61
 GRANDMOTHER *su* CA41; =A273
 GRANDMOTHER *čeče* E51; =H100
 GRASS *are* MG55
 GRASS *kuli* A133
 GRASS *numpa* E52
 GRASS *peu* CP88; =P93
 GRASS *pu* P93; =CP88
 GREEN *zawa* MP32
 GRIND *kuri* P94
 GRIND *su* CA42
 GRIND *?iknu* H76
 GROW *ja* CA43
 GUM *nok* P95
 GUTS *akai* P96
 GUTS *dodi* AN51
 GUTS *he* E53
 GUTS *suku* CP89
 GUTS *t'impe* AK92
 GUTS₁ *epokul* A134
 GUTS₂ *kul* A135
 HAIR *ali* AN52; =MG57; =P75
 HAIR *ii* MT45
 HAIR *sa* CP90
 HAIR *t^sume* A136; =E54
 HAIR₁ *kai* MG56
 HAIR₁ *kueš* P97
 HAIR₁ *t^soni* CA44; =E55
 HAIR₁ *čuma* E54; =A136
 HAIR₂ *ari* MG57; =AN52; =P75
 HAIR₂ *it^si* P98
 HAIR₂ *po* CA45; =A24; =A108;
 E42
 HAIR₂ *tuna* E55; CA44
 HALF *keri* CP91
 HAND *još* AN53; =P7
 HAND *kepi* E56
 HAND *nitale* MC26
 HAND *poto* P99; =AK203
 HAND₁ *kite* AK93; =CP92; =P89
 HAND₁ *kuse* CP92; =AK93; =P89
 HAND₁ *makan* A137
 HAND₁ *pake* MT46; =A7; =P214
 HAND₁ *tani* H77; =E126
 HAND₂ *limpa* MT47
 HAND₂ *mut* H78
 HAND₂ *saka* CP93; =AK94
 HAND₂ *saki* AK94; =CP93
 HAND₂ *?ani* A138
 HAND₃ *atu* A139
 HANG *pani* MP33
 HARD *nako* AN54
 HARD *ni* AK95
 HARD *t'ara* CP94
 HARD *taio* MG58; cf. A46;
 cf. MC63
 HARD₁ *k^wele* A140
 HARD₁ *āl* P100
 HARD₂ *k'at^si* A141; =P102;
 =CP184
 HARD₂ *ti?* P101
 HARD₃ *k'ati* P102; =A141;

- =CP184
 HATE *pak* MP34; cf. P74
 HATE *pul* A142
 HAVE *iči* P103
 HE *na* G15 [A]; cf. G23
 HE *s* G18 [AK]
 HE *ʔi* G12 [A]
 HEAD *kitan* MG59
 HEAD *koati* MT48
 HEAD *tolis* P104
 HEAD *tope* E57
 HEAD₁ *lax* H79
 HEAD₁ *pusu* CP95
 HEAD₁ *puta* A143
 HEAD₁ *sako* AK96; =CP96
 HEAD₂ *hiba* H80
 HEAD₂ *pa(ksu)* AK97
 HEAD₂ *saku* CP96; =AK96
 HEAD₂ *take* A144
 HEAR *aina* MT49
 HEAR *koe* H81
 HEAR *nan* CA46
 HEAR *opisa* E58
 HEAR₁ *mar* MG60
 HEAR₁ *naka* A145
 HEAR₁ *pok* P105
 HEAR₂ *kan* P106; =E34
 HEAR₂ *pa* MG61; =AK58
 HEAR₂ *tine* A146; =AK57
 HEART *tʰukul* H82; =CP107
 HEART *te* AK98
 HEART *tu* P107; =P25; =H25;
 =CP98
 HEART₁ *ia* CP97
 HEART₂ *iso* CP98; =P25; =P107;
 =H25
 HEAVEN *kutu* AN55
 HEAVEN *nano* CP99
 HEAVEN *poto* E59; cf. P40
 HEAVEN₁ *kali* A147; =CP1
 HEAVEN₂ *ema* A148; =E1
 HEAVY *meʔe* MC27
 HEAVY *mita* H83
 HEAVY *nake* AK99
 HEAVY *nul* CP100
 HEAVY *pali* E60
 HERE *kre* MG62
 HERE *tih* MT50
 HIDE *disu* CP101
 HIDE₁ (V.) *ʔoma* P108
 HIDE₂ (V.) *ʔikoj* P109; cf. CA15
 HILL *wasa* H84
 HIT *hol* H85
 HIT *kora* MG63
 HIT *moka* AK100
 HIT *pa* CA47; =P14
 HIT *taki* A149; =AK31
 HIT *toh* P110; =AK153; =AN37
 HOLD *kun* AK101
 HOLE *jata* AK102
 HOLE₁ *hop* P111
 HOLE₁ *kre* MG64
 HOLE₁ *paka* CP102
 HOLE₁ *tʰimak* A150
 HOLE₂ *doro* MG65; cf. P115
 HOLE₂ *mu* A151
 HOLE₂ *palo* CP103
 HOLE₂ *ʔapu* P112
 HOLE₃ *tuk* P113
 HOLE₄ *hol* P114
 HOLE₅ *talok* P115; cf. MG65
 HONEY *belu* MT51
 HONEY₁ *mapa* E61
 HONEY₂ *kote* E62
 HORN *kaču* CP104
 HORN *kin* A152
 HORN *taš* MP35
 HORN *wesu* H86
 HORTATIVE *pa* G86 [A]
 HOT *kerank* MG66

- HOT *k'wet^s* AK103
 HOT *pači* CP105; =CP109;
 =MG18
 HOT *uka* MC28
 HOT₁ *haji* P116
 HOT₂ *lahp* P117
 HOT₃ *t^sa* P118
 HOUSE *ama* H87
 HOUSE *ika* MC29; =CA48
 HOUSE *ja* CP106; =H96
 HOUSE *ka* CA48; =MC29
 HOUSE *men* MT52
 HOUSE *pā* MG67
HOUSE *toh* A153
 HOUSE₁ *han* P119; cf. AK118
 HOUSE₂ *keli* P120
 HOW MANY? *tan* MG68; cf. G106
 HUNGER *mača* AN56
 HUNGRY *ka?* P121
 HUNT *ore* AK104
 HURT₁ *kama* AN57
 HURT₂ *ke* AN58
HUSBAND *mano* A154
 HUSBAND₁ *nau* P122; =MC31
 HUSBAND₁ *wano* MC30; =P179
 HUSBAND₂ *haja* P123
 HUSBAND₂ *ino* MC31; =P122
I *ma* G3 [A]
I *na(?)* G1 [A]
I *ʔi* G2 [A]
 ICE *k^wami* AK105
 IMPERATIVE *ka* G90 [H]
 IMPERATIVE *la* G89 [H]
 IMPERATIVE *u* G87 [CP]
 IMPERATIVE *ʔi* G88 [H]; =G91
 IMPERATIVE *ʔi* G91 [K]; =G88
 INSIDE *huk* AK106
 INSIDE *man* AN59
INTERROGATIVE *kin*
 G102 [A]
INTERROGATIVE *min*
 G103 [A]
 INTERROGATIVE *na* G104 [MC]
 INTERROGATIVE *pi* G105 [C]
 INTERROGATIVE *tin* G106 [P];
 cf. MG68
ITERATIVE *te* G74 [A]
 JAGUAR *mana* AN60; cf. CP46
 JAGUAR *puti* MT53
 JUMP *t^sat* P124; =P69
 KEEP *pal* P125
 KIDNEY *soka* CP107; =H82
 KILL *keče* AN61
KILL *pa* A155; =P14; =CA27;
 =AK54; =MG69
 KILL *pata* CP108
 KILL *pi* MG69; =A155; =P14;
 =CA27; cf. AK54
 KILL₁ *t^e* P126
 KILL₂ *nim* P127
 KILL₃ *lap* P128
 KILL₄ *t^sxa* P129; =P55
 KILL₅ *oks* P130
 KINDLE *pat^se* CP109; =CP105;
 =MG18
 KINDLE₁ *ũ* AK107
 KINDLE₂ *t^suku* AK108; =A54;
 =A251; =P285
 KISS *muča* AN62
 KNEAD *pon* MP36
 KNEE *k^walenk* P131
 KNEE *nopui* E63
 KNEE *pulut^s* H88
 KNEE *tula* AN63
KNEE₁ *kati* A156
KNEE₂ *puku* A157; =MT16
 KNIFE *keti* MG70; =MP20; =A49
 KNOW *hona* MP37
KNOW *kom* A158
 KNOW₁ *hoto* P132

- KNOW₂ *joki* P133
 LAKE *kuače* E64; =AN121;
 =CP51; =MG33
 LAKE *re* AK109; =CP212
 LARGE *bui* CP110; =H89
 LARGE *kuttu* AK110
 LARGE *mara* MT54
 LARGE *mono* MC32; =AN64
 LARGE *mwi* CA49
 LARGE *uman* AN64; =MC32
 LARGE₁ *hot* P134
 LARGE₁ *po* H89; =CP110
LARGE₁ *tak* A159
 LARGE₂ *kwaku* H90
LARGE₂ *mek'ati* A160
 LARGE₂ *?ate* P135
 LARGE₃ *pane* H91
 LAUGH *alu* CP111
 LAUGH *beči* E65
LAUGH *kali* A161; =AN65
 LAUGH *kolka* AN65; =A161
 LAUGH *lik* H92
 LAUGH₁ *amas* P136
 LAUGH₂ *haja* P137
 LEAF *awa* MP38
 LEAF *ji* MT55
 LEAF *lapi* AN66
 LEAF *maso* CP112
 LEAF *p'aq^w* AK111
 LEAF *tala* H93
LEAF₁ *ene* A162
 LEAF₁ *osi* P138
LEAF₂ *pane* A163
 LEAF₂ *t'apa* P139
LEAF₃ *imi* A164
 LEAVE *jane* MP39
 LEFT (SIDE) *mwenik* AN67
 LEFT (SIDE) *ket^s* AK112; =MG71
 LEFT (SIDE) *keč* MG71; =AK112
 LEFT (SIDE) *kuli* H94
 LEG *inoa* MT56
 LEG *kela* AN68; =H122; =MC56;
 cf. CP155
 LEG *ku* CA50
 LEG *kumpa* E66
 LEG *t^saka* AK113; ?=A165;
 cf. CP167
LEG *ta(k)* A165; ?=AK113;
 cf. CP167
 LEG₁ *mal* P140
 LEG₁ *moka* CP113
 LEG₁ *tia* MC33
 LEG₂ *lul* P141
 LEG₂ *mana* MC34
 LEG₂ *sona* CP114
 LICK *me* MC35
 LICK *tumpe* MG72
 LIE₁ (TELL A) *mal* P143
 LIE₂ (TELL A) *holabi* P144
 LIE (TELL A) *pe* AK114
 LIE (TELL A) *upati* E67
 LIE (TELL A) *win* MG73
 LIE DOWN *jok* P142
 LIE DOWN *ko* CA51; cf. AN103
 LIE DOWN *pas* CP115
 LIE DOWN₁ *t^sek* AK115
 LIE DOWN₂ *jã* AK116
 LIGHT *k'i* P145
LIGHT (n.) *mea* A166
 LIGHTNING *meru* MC36
 LIGHTNING *met* H95
 LIGHTNING *wilep'* P146
LIP *jape* A167
 LIP *no* MT57
 LIP *sk^wa* AK117
 LIVE *ha* AK118; cf. P119
 LIVE₁ (V.) *lak* P147
 LIVE₂ (V.) *nom* P148
 LIVE (V.) *ia* H96; =CP106
 LIVE (V.) *si* CP116

- LIVER** *apati* A168; =E69
LIVER *k^wani* AK119
LIVER *k'ot^sel* P149
LIVER *pa* MG74
LIVER₁ *kepa* E68
LIVER₂ *pita* E69; =A168
LIZARD *tare* MT58
LIZARD *ten* CA52
LIZARD *uli* A169; cf. CP179
LOCATIVE *ma* G46 [A]
LOCATIVE *ni* G47 [A]
LOCATIVE *pa* G48 [A]
LOCATIVE *te* G49 [A]
LONG *mahe* MT59
LONG *sin* AN69
LONG *tuku* E70
LONG₁ *ali* A170
LONG₂ *kule* A171
LOOK *pon* CA53
LOOK *čola* MP40
LOOK₁ *t'en* P150; =CP159;
 =AN34
LOOK₂ *pe* P151; =A222;
 =AK162
LOSE *manu* MP41
LOUSE *pepe* MG75
LOUSE *tami* MT60
LOUSE₁ *koma* E71
LOUSE₁ *mu* CP117
LOUSE₁ *ti* A172
LOUSE₂ *tina* A173
LOUSE₂ *tuma* CP118
LOUSE₂ *wi* E72
LOUSE₃ *ik'e* A174
LOUSE₃ *kwapi* E73
LOVE *ičo* E74
LOVE *luna* CP119
MAKE *make* CP120
MAKE *ne* MC37
MAKE *wa* MP42
MAKE₁ *japo* E75
MAKE₁ *kami* P152
MAKE₁ *ta?* A175
MAKE₂ *ju* A176
MAKE₂ *nino* E76; =CP224
MAKE₂ *řiča* P153
MALE *alak* AN70; =E77
MAN *luku* E77; =AN70
MAN *non* AN71
MAN *pek* AK120
MAN *sin* CA54
MAN *tai* MG76
MAN *tima* MC38; cf. CP138
MAN₁ *ači* A177
MAN₁ *kote* MT61; =AN35; =P92
MAN₁ *řel* CP121
MAN₂ *kak* A178; =H54
MAN₂ *mia* MT62
MAN₂ *muki* CP122
MAN₃ *ipa* A179
MAN₃ *porki* MT63
MAN (OLD) *amu* E91
MAN (OLD) *tompa* CP138;
 cf. MC38
MANY *lama* MP43
MANY *paka* MT64
MANY *pelak* H97
MANY *tite* MG77
MANY₁ *ali* A180; =AK121;
 =P162
MANY₁ *hila* AK121; =P162;
 =A180
MANY₁ *put^sa* E78; =MG1
MANY₂ *kali* AK122
MANY₂ *poj* E79; =H2
MANY₂ *tol* A181
MANY₃ *isa* AK123
MANY₃ *moni* A182
MASCULINE/FEMININE *i/u*
 G39 [A]

MASCULINE/FEMININE *t/s*

G38 [A]
 MEAT *kal* AN72
 MEAT *nak* AK124; =MP44
 MEAT *noha* MP44; =AK124
 MEAT *tin* MG78; cf. AK65
 MEAT₁ *lau* A183
 MEAT₁ *sami* P154
 MEAT₂ *anena* A184; =E40
 MEAT₂ *nope* P155
 MEAT₃ *mati* A185; =H18
 MEAT₄ *ati* A186
 MIDDLE *mak* H98
 MIDDLE *sena* AK125
 MONKEY *kukoi* MG79; =E80
 MONKEY *kučiro* E80; =MG79
 MONKEY₁ *nome* MC39
 MONKEY₂ *homa* MC40
 MOON *nunti* AK126; =MC42
 MOON *pina* MG80
 MOON *t^sopi* E81; =A188;
 =AN109
 MOON *tel* AN73
 MOON₁ *malan* MC41
 MOON₁ *poto* A187
 MOON₂ *nuna* MC42; =AK126
 MOON₂ *tamp* A188; =E81;
 =AN109
 MORNING *tuki* P156; =A251
 MORNING *tuna* E82
 MOSQUITO *ija* MP45
 MOSQUITO *koka* MG81
 MOSQUITO *polunk* A189;
 ?=A119
 MOSQUITO *t^sampa* AK127
 MOSQUITO *t^sele* H99
 MOSQUITO *tinu* CP123
 MOTHER *ja* CA55
 MOTHER *nana* MP46; =A14
 MOTHER *tati* H100; =E51

MOTHER *?ukasima* AK128
 MOUNTAIN *awaj* H101; cf. MT65
 MOUNTAIN *kompā* CP124
 MOUNTAIN *neko* AK129
 MOUNTAIN *pian* CA56
 MOUNTAIN *tampo* E83
 MOUNTAIN₁ *nani* P157
 MOUNTAIN₁ *waiku* MT65;
 cf. H101
 MOUNTAIN₂ *kot* P158
 MOUNTAIN₂ *poχa* MT66; cf. A2
 MOUSE *k^wasi* AK130; =A190;
 =MP8
 MOUSE *kusi* A190; =AK130;
 =MP8
 MOUSE *meka* MP47
 MOUSE *pote* E84
 MOUSE *t^sampa* P159
 MOUTH *intako* MG82
 MOUTH *kala* H102; =AN75;
 cf. MT67
 MOUTH *kana* MT67; cf. H102;
 cf. AN75
 MOUTH *kopo* E85
 MOUTH *ma* AK131; cf. AK59;
 cf. H46
 MOUTH *mata* MC43
 MOUTH *sapa* CP125
 MOUTH *či* P160
 MOUTH₁ *jau?* A191; =E36
 MOUTH₁ *lal* AN74
 MOUTH₂ *kolo* AN75; =H102;
 cf. MT67
 MOUTH₂ *kua* A192
 MUCH₁ *la* P161
 MUCH₁ *?ana* AK132
 MUCH₂ *a?te* AK133
 MUCH₂ *hele* P162; =AK121;
 =A180
 MUCH₃ *wi* P163

- NAIL *ape* E86
 NAIL *ki* CP126
 NAIL *su* CA57
 NAIL *tak* P164
 NAIL₁ *pati* MT68
 NAIL₂ *peko* MT69
 NAME *ako* CP127
 NAME *ire* E87
 NAME₁ *senok* AK134
 NAME₂ *wew* AK135
NARROW *tʰian* A193
 NAVEL *kupu* AN76
 NAVEL *lapu* H103
 NAVEL *tok* P165
NAVEL *tompa* A194
NEAR *kama* A195
 NEAR *kata* AK136
 NEAR *kole* CP128
 NEAR *maku* H104
 NEAR₁ *haja* P166
 NEAR₂ *nakak* P167
 NECK *aru* AN77; =E115
NECK *k'oe* A196
 NECK *kak* AK137; =CP129
 NECK *pok* H105; =CP130
 NECK *tou* MG83
 NECK₁ *guaka* CP129; =AK137
 NECK₁ *tet^s* MP48
 NECK₂ *paka* CP130; =H105
 NECK₂ *u* MP49
 NECK₃ *tala* CP131; =CP30;
 =A228; =MC59
 NEGATIVE *ama* G101 [MP]
NEGATIVE *kua* G100 [A]
 NEPHEW *paito* MC44
 NET *wana* CA58
 NEW *eli* CP132
 NEW *iti* P168; cf. CA63
 NEW *mako* AN78
 NEW *oron* MG84
 NEW *pala* H106
 NEW *wask* AK138
 NIGHT *pitun* E88
NIGHT₁ *jam* A197
 NIGHT₁ *nak* P169
NIGHT₂ *mok* A198
 NIGHT₂ *tuwa* P170
NIGHT₃ *sepi/pasi* A199
NIGHT₄ *kači* A200; =AN27;
 cf. P17
NOMINALIZER *an* G65 [A]
 NOMINALIZER *kar* G63 [AN]
NOMINALIZER *na* G61 [A]
NOMINALIZER *ri* G60 [A]
 NOMINALIZER *s* G64 [P]
 NOMINALIZER *sti* G59 [K]
 NOMINALIZER *wa* G62 [CA]
 NOMINALIZER *we* G58 [AN]
 NOSE *kane* MT70
 NOSE *nampi* E89
 NOSE *nari* MC45
NOSE *netik* A201
 NOSE *nine* MG85
 NOSE *?api* H107
 NOSE *čuna* AN79; =A79;
 =AK175
 NOSE₁ *aču* CP133; =AN106
 NOSE₁ *kosa* AK139
 NOSE₂ *jas* AK140
 NOSE₂ *kimpu* CP134
 NOW *eroma* MC46; =CP135;
 =MG112
 NOW *wa* AK141
 NOW₁ *ira* CP135; =MC46;
 =MG112
 NOW₂ *aman* CP136
OLD *ano* A202
 OLD *ača* AN80
 OLD *h^wasi* P171
 OLD *keri* MG86

- OLD *kā* AK142
 OLD *patu* H108
 OLD *san* E90
 OLD *seri* MP50
 OLD *tare* CP137
 ONE *suk* AN81; =AK143
 ONE₁ *iska* AK143; =AN81
 ONE₁ *paka* H109
 ONE₁ *pes* CP139
 ONE₁ *tama* A203
 ONE₂ *ba* CP140
 ONE₂ *kela* A204
 ONE₂ *kot* AK144
 ONE₂ *pani* H110
 ONE₃ *ato* CP141
 ONE₄ *nekui* CP142
 ONION *si* CA59
 OPEN₁ *hakin* P172
 OPEN₁ *ken* AK145; =P173
 OPEN₂ *kune* P173; =AK145
 OPEN₂ *ta* AK146
 OPEN₃ *pai* P174; =CP143
 OPEN *pai* CP143; =P174
 OTHER *non* MG87
 OTHER₁ *kaku* AN82; =H153
 OTHER₂ *wah* AN83
 OUT *mana* MC47
PAIN *(n)ana* A205
 PAIN *punuk* AN84
 PAIN *sala* CP144
 PAIN *taka* AK147
 PAIN *uri* MG88
 PARTICIPIAL *ma* G68 [E]
 PARTICIPIAL *na* G69 [CP]
 PAST (TENSE) *ipa* G80 [H]
 PAST (TENSE) *ite* G78 [MP]
PAST (TENSE) *na* G77 [A]
 PAST (TENSE) *weči* G98 [MC]
 PAST (TENSE) *š* G79 [C]
 PENIS *jot* P175
PENIS *ko* A206
 PENIS *laka* AN85
 PENIS *nol* H111
 PENIS *pen* MC48
 PENIS *sako* AK148
 PENIS *tuka* MT71
 PEOPLE *oni* P176
PERSON *kaja* A207
 PERSON *komo* MC49
 PERSON *tali* CP145
 PERSON₁ *kala* P177
 PERSON₁ *onk^we* AK149
 PERSON₂ *amai* P178
 PERSON₂ *nik* AK150
 PERSON₃ *hajanu* AK151
 PERSON₃ *wintu* P179; =MC30
 PIERCE *oko* AN86
 PIERCE *pe* MC50
 PLACE *awa* P180
 PLACE *pa* E92
 PLANT (V.) *ke* AK152
 PLAY *leuk* P181
 PLAY *maki* AN87
PLURAL *aki* G32 [A]
 PLURAL *bo* G35 [MP]
PLURAL *ele* G33 [A]
PLURAL *ma* G31 [A]
PLURAL *na* G30 [A]
 PLURAL *to* G34 [MP]
 PLURAL *wa* G36 [H]
 PLURAL *?aʔ* G37 [AL]
 POUND *taʔ* AK153; =P110;
 =AN37
 POUR *sik* AK154
PRESENT (TENSE) *i* G71 [A]
 PRESENT (TENSE) *na* G75 [AN]
 PRESS *tom* MG89
 PULL *hoka* E93
 PULL *jun* H112
 PULL *mana* MT72

- PULL₁ *čal* P182
 PULL₂ *taku* P183
 PULL OFF *pil* H113
 PULL OUT *pu* MT73
 PUSH *paka* CP146
 PUT *ne* MG90
 PUT₁ *poli* P184
 PUT₂ *mačg* P185
 RABBIT *kuni* H114
 RABBIT *pa* CA60
 RAIN *akwi* H115
 RAIN *lulu* MT74
RAIN *na* A208
 RAIN *sta* AK155
 RAIN *toma* MC51; =E94
 RAIN *tompa* E94; =MC51
 RAIN₁ *nusa* CP147
 RAIN₁ *pala* AN88
 RAIN₂ *sebu* CP148
 RAIN₂ *uxla* AN89
 RAIN₃ *man* CP149
 RAIN₃ *ten* AN90
 RAISE *sa* CA61
 RAT *pi* CA62
 RAW *kašu* H116
 RAW *t^sana* CP150
 RECIPROCAL *po* G27 [P]
 RED *kapen* AN91
 RED *kike* P186
RED *pe* A209
 RED *tek* MP51; =AK156
 RED *tipo* MC52
 RED₁ *t^sak^wa* AK156; =MP51
 RED₂ *mat^sk^wi* AK157; =P18
 REFLEXIVE *ki* G96 [MP]
 REFLEXIVE *m* G97 [AN]
REFLEXIVE *ti* G25 [A]
 RETURN *kuti* AN92
 RETURN₁ *joke* P187; cf. AN24
 RETURN₂ *malo* P188
 RETURN₃ *tok* P189; cf. CP36
 RIB *kora* MC53
 RIB *mana* MP52
 RIB *nok^wak* AK158
 RIB *pani* AN93
 RIB *wexut* P190
 RIPE *nako* H117
 RIPE *te* CA63; cf. P168
 RIVER *buit^su* E95
 RIVER *waro* MG91; =CP151
RIVER₁ *pel* A210
 RIVER₁ *wala* CP151; =MG91
 RIVER₂ *kuna* CP152; =A87;
 =AK185; =MG118
RIVER₂ *tia* A211
 ROAD *kampa* H118
 ROAD *miku* P191
 ROAD *poro* MG92; cf. E49
 ROAD *tewa* MT75
ROAD₁ *nama* A212
ROAD₂ *p'en* A213
 ROAST *k'^wali* AK159
 ROAST *rui* MC54
 ROAST *sil* H119
 ROAST *tau* P192
ROOT *tap* A214
 ROOT *?ima* H120
 ROOT₁ *ti* MT76
 ROOT₁ *ʔak^wi* P193
 ROOT₂ *bil* P194
 ROOT₂ *neko* MT77
 ROPE *ampa* MT78
 ROPE *asul* H121
 ROPE *kapu* MC55
 ROPE *t^s'ak* P195
 ROPE *čita* CP153
 ROTTEN *pate* CP154
 ROTTEN *poko* MP53
 ROTTEN *tokun* AN94
 ROTTEN *is* P196

- ROUND** *molok* A215
RUB *sepa* CA64
RUN *gali* H122; =MC56;
 cf. CP155; =AN68
RUN *kane* MC56; =H122;
 cf. CP155; =AN68
RUN *kuri* CP155; cf. H122;
 cf. MC56; =AN68
RUN *pi* E96
RUN *pron* MG93
RUN *t'ik'a* AN95; =P198
RUN₁ *pala* P197
RUN₂ *taka* P198; =AN95
RUN₃ *wele* P199
SALIVA *išo* MG94; cf. P272;
 cf. H44; cf. MT100
SALIVA *ole* A216
SALIVA *tuku* P200; =AK161
SALIVA₁ *čupa* AK160
SALIVA₂ *tak* AK161; =P200
SALT *akai* H123
SALT *nanku* CP156
SALT *tin* CA65
SAND *se* CA66
SAY *aj* CP157; =P202; cf. P204
SAY *ana* AN96; =P201
SAY₁ *ene* P201; =AN96
SAY₁ *ti* A217; =CA74
SAY₂ *hai* P202; =CP157; cf. P204
SAY₂ *k^wela* A218
SAY₃ *ko?e* A219; =P246
SAY₃ *wali* P203; =MT90; =MC60
SAY₄ *ʔa* P204; cf. CP157;
 cf. P202
SCRATCH *bur* CP158
SEA *amum* AN97; =A89;
 =CP211; =E125
SEE *de* MT79
SEE *ma* CA67; =CP160
SEE₁ *neu* A220
SEE₁ *p'a* AK162; =A222; =P151
SEE₁ *ruk* AN98
SEE₁ *tene* CP159; =AN34;
 =P150
SEE₁ *ʔaʔo* H124
SEE₂ *i'a* AN99
SEE₂ *k'a* AK163; =MT36
SEE₂ *maki* H125
SEE₂ *mi* CP160; =CA67
SEE₂ *win* A221
SEE₃ *manit^s* AN100
SEE₃ *pi* A222; =AK162; =P151
SEED *koi* MT80
SEED *tan* CA68
SEED₁ *mak* A223
SEED₁ *ñin* CP161
SEED₂ *it^su* A224
SEED₂ *uba* CP162
SEEK *k^wat* AK164
SEEK *peno* A225
SEEK₁ *hojo* P205
SEEK₁ *kap* CP163
SEEK₂ *paka* CP164
SEEK₂ *wana* P206
SELL *jik* P207
SEVEN *te* CA69
SEW *ket^s* CP165
SEW *pik* P208; =H159
SHADOW *itka* P209
SHADOW *kajo* E97
SHADOW *mani* MC57; =CP166
SHADOW *manis* CP166; =MC57
SHADOW *nok^wak* AK165
SHARP (TASTE) *are* MG95
SHARPEN *angro* MG96
SHIN *pesi* E98
SHIN *sagua* CP167; cf. AK113
SHINE *lemp* A226
SHINE *mak* AK166
SHINE *waxa* P210

- SHOOT *na* H126
 SHOOT *t'ux^we* P213
 SHOOT *teja* CP168
SHORT *kunek* A227; =E101
 SHORT *taputi* MC58
 SHORT *te* CA70
 SHORT₁ *mink* P211
 SHORT₂ *pok* P212
 SHOULDER (*mo-*)*tali* MC59;
 =A228; =CP30; =CP131
 SHOULDER *pak* P214; =A7;
 =CP219; =MT46
SHOULDER *tala* A228; =MC59;
 ?=CP30; =CP131
 SHOULDER₁ *pala* CP169
 SHOULDER₂ *peču* CP170;
 cf. MC10
 SHOUT *t^seja* MP54
 SHOUT (V.) *pai* CP171
 SHOW *kima* P215
 SIBLING *wa* CA71
 SICK *mao* MG97
 SIDE *aji* MP55
 SIDE *kati* CP172
 SIDE *mal* AK167
 SINEW *ipam* H127
 SING *angrin* MG98
 SING *namake* CP173
SING *sija* A229
 SING₁ *kam* AK168
 SING₂ *kan* AK169
 SING₃ *wã* AK170
 SISTER *kañi* AN101; =MP16
 SIT *moin* MG99
 SIT *čaʔu* CP174
 SIT₁ *ik* H128; =AK171; =AN14;
 cf. P217
 SIT₁ *k'u* AK171; =H128; =AN14;
 cf. P217
SIT₁ *ni* A230
 SIT₁ *t'ok^w* P216; =A232
 SIT₂ *ikel* H129
 SIT₂ *met* AK172
SIT₂ *uwa* A231
 SIT₂ *čai* P217; cf. AK171; cf.
 H128; cf. AN14
SIT₃ *tak* A232; =P216
 SKIN *api* AN102; =MG6
 SKIN *kat* MG100; =CP175
 SKIN *k'^wati* CP175; =MG100
 SKIN *som* H130; =P13; =MT81
 SKIN *čimo* MT81; =P13; =H130
 SKIN₁ *talik* P218
SKIN₁ *toke* A233
SKIN₂ *pakti* A234
 SKIN₂ *ʔuk* P219
 SKY *epalu* P220; =H155
 SLEEP *aka* AN103; cf. CA51
 SLEEP *t'e* AK173
 SLEEP *weha* MT82
SLEEP₁ *ino* A235
 SLEEP₁ *pa* CP176
 SLEEP₁ *simak* H131
 SLEEP₂ *apok* H132
 SLEEP₂ *kampa* CP177
SLEEP₂ *kana* A236
 SMALL *es* AK174
SMALL *man* A237
 SMALL *piči* AN104
 SMALL *rog* MG101
 SMALL *sin* CA72
 SMALL *taku* H133; MP56
 SMALL *tika* MP56; H133
 SMALL₁ *nuksti* P221
 SMALL₁ *papi* E99
 SMALL₂ *isel* P222
 SMALL₂ *ku* E100
 SMALL₃ *kunič* E101; =A227
SMELL *k'uk^wi* A239
 SMELL *senok* AK175; =CP133;

- =A79
- SMELL *ume* E102
- SMELL**₁ *matik'* A238
- SMELL₁ *moka* AN105
- SMELL₂ *asi* AN106; =CP133
- SMOKE *kale* P223
- SMOKE *kum* MG102
- SMOKE *t^saka* H134; =AK176
- SMOKE *t^s'eqa* AK176; =H134
- SMOKE (N.) *kiepo* E103
- SMOKE (V.) *t'oi* CP178
- SMOOTH *hin* P224
- SMOOTH *lak'* H135
- SNAKE *nat* AK177
- SNAKE *paj* P225
- SNAKE *peno* MT83
- SNAKE**₁ *kan* A240
- SNAKE₁ *angia* E104
- SNAKE₁ *jora* CP179; cf. A169
- SNAKE₂ *huhi* CP180
- SNAKE₂ *manu* E105
- SNAKE**₂ *tompa* A241; =E131
- SNOW₁ *nija* AK178
- SNOW₁ *pen* P226
- SNOW₁ *ʔiju* H136
- SNOW₂ *kuwila* P227
- SNOW₂ *maʔ* AK179
- SNOW₂ *poj* H137
- SOCIATIVE *ja* G57 [MP]
- SOCIATIVE *kan* G54 [P]
- SOCIATIVE** *mane* G52 [A]
- SOCIATIVE *maʔ* G55 [AL]
- SOCIATIVE *na* G26 [CA]
- SOCIATIVE *pi* G53 [CP]
- SOFT *apoi* AN107
- SOFT *to* CA73
- SON *ina* MP57; =A61
- SOUR** *kai* A242
- SOUR *pat^si* MP58; =A35
- SPEAK *tu* CA74; =A217
- SPEAK *ura* MC60; =P203;
=MT90
- SPIDER *lom* P228
- SPIDER *toti* MC61
- SQUIRREL *hiʔu* P229
- STAND *kara* MT84
- STAND *taʔ* AK180; =P233
- STAND *wine* CA75
- STAND₁ *tala* P230
- STAND₂ *tak* P231
- STAND UP₁ *juko* P232
- STAND UP₂ *to* P233; =AK180
- STAR *upa* CP181
- STAR**₁ *(a)sin* A243
- STAR₁ *pole* AN108
- STAR**₂ *met^sa* A244
- STAR₂ *čup* AN109; =A188; =E81
- STEAL *kemoti* AK181
- STEAL *meri* MC62; =CP183
- STEAL *w'ilu* P234
- STEAL₁ *ise* CP182
- STEAL₂ *mer* CP183; =MC62
- STICK *muli* AK182
- STICK *tomaj* P235; =MT95;
=MC71; =E47
- STICK *čapa* MT85
- STONE *k'atu* CP184; =A141;
=P102
- STONE *kena* MG103; cf. A245
- STONE *pote* E106
- STONE *ta* CA76; cf. MC63;
cf. MG58; cf. A46
- STONE *taho* MC63; cf. CA76;
cf. MG58; cf. A46
- STONE**₁ *kela* A245; cf. MG103
- STONE₁ *měj* AK183
- STONE₁ *nota* MT86
- STONE₁ *pak* H138
- STONE₁ *ʔoa* P236
- STONE₂ *kape* H139

- STONE₂ *tape* MT87
STONE₂ *tiak* A246
 STONE₂ *tola* P237
 STONE₂ *čane* AK184
 STONE₃ *aki* MT88
 STRING *nu* MT89; =H140
 STRING *nulu* H140; =MT89
STRONG *pale* A247
 STRONG₁ *tae* CP185
 STRONG₂ *tar* CP186
 SUN *hena* AN110
 SUN *wani* MC64
 SUN₁ *ali* A248
 SUN₁ *kati* CP187; =E109
 SUN₁ *kuman* E107
 SUN₁ *t^sual* H141; =MG28
 SUN₂ *koli* A249
 SUN₂ *lako* H142
 SUN₂ *lan* CP188
 SUN₂ *masiku* E108
 SUN₃ *kati* E109; =CP187
 SUN₃ *pali* A250
 SUN₄ *toki* A251; =P156
 SWALLOW *kot* MG104
SWALLOW *mik'o* A252; =AN33
 SWALLOW *q'one* AK185; =A87;
 =MG118; =CP152
 SWALLOW₁ *lak* P238
 SWALLOW₂ *milq* P239
 SWAMP *ikali* MC65
 SWEAT *astuk* H143
 SWEEP *pas* P240
 SWEET *anite* AK186
 SWEET *jali* AN111
 SWELL *peos* AK187
 SWIM *begi* MP59; =A20; =H157;
 =AK77
 SWIM *kate* H144
 SWIM *naq'* AK188
 SWIM *topi* MG105
 SWIM₁ *mil* P241
 SWIM₂ *me* P242
 TAIL₁ *ine* E110; =AK19
 TAIL₁ *teta* CP189
 TAIL₂ *kari* E111
 TAIL₂ *mex* CP190; =H11
 TAKE *pita* P243
 TAKE *uwa* CP191
 TAKE OUT *ke* MG106
 TALK *mala* CP192; =P247
 TASTE *lat^sa* P244
 TASTE *p'akat'i* AK189
 TEAR (DROP) *kako* MG107
 TELL *rake* AK190
 TELL *ware* MT90; =P203;
 =MC60
 TELL₁ *wič* P245
 TELL₂ *ka* P246; =A219
 TELL₃ *mal* P247; =CP192
 TEN *maku* P248
 TEN *te* CA77
 TESTICLE *katu* MT91
 TESTICLE *mak'in* AK191
TESTICLE *paki* A253; ?=H47
 TESTICLE *t^solo* H145; =P249
 TESTICLE *talo* P249; =H145
 THAT *a* G17 [CP]
 THAT *ha* G24 [MP]
THAT *mo* G14 [A]
THAT *pa* G16 [A]
THAT *ti* G13 [A]
 THICK *kapa* AK192
 THIGH *pate* MC66; =A120
 THIGH *teta* E112
 THIN *aru* MG108
THIN *k'ut'i* A254
 THIN *kam* MP60
 THIN *paka* P250
THIS *ki* G22 [A]
THIS *ni* G23 [A]; cf. G15

- THORN *meč* AN112
 THORN *nuk* E113; =P9
 THORN *tat* H146
 THORN₁ *pu* CP193
 THORN₂ *sikali* CP194
THOU *a* G7 [A]
 THOU *i* G9 [E]
THOU *ki* G10 [A]; ?=G19;
 ?=G28
 THOU *kuma* G8 [AN]
THOU *ma* G6 [A]
 THOU *so* G11 [AK]
 THREAD *wia* CA78
 THREE *kala* AN113
 THREE *mai* CP195
 THREE *pai* CA79
THROAT *nuk'* A255
 THROAT₁ *kolo* E114
 THROAT₂ *jari* E115; =AN77
 THROW *aha* AN114; =H149
 THROW *ame* MG109
 THROW₁ *pil* P251
 THROW₁ *tampi* H147
 THROW₂ *pat* H148
 THROW₂ *wit* P252
 THROW₃ *aka* H149; =AN114
 THROW₄ *sum* H150
 THUNDER *mukak* AK193
 THUNDER *pia* CP196
 THUNDER *tim* P253
 THUS *han* MG110
 TIE *mai* MC67
 TIE *pu* CA80
 TIE₁ *ola* P254
 TIE₁ *taka* CP197
 TIE₂ *koja* CP198
 TIE₂ *tep* P255
 TIRED *kare* MG111
 TODAY *nepi* MC68
 TODAY *nokoa* MT92
 TODAY *ore* MG112; =CP135;
 =MC46
 TOMORROW *bauna* AN115
 TOMORROW *koro* MC69
 TOMORROW *tan* CA81
 TOMORROW *čiki* CP199
 TONGUE *jen* CA82
 TONGUE *ʔipali* H151
 TONGUE₁ *ala* P256
TONGUE₁ *nik* A256
 TONGUE₁ *sona* CP200
TONGUE₂ *otu* A257; =CP201
 TONGUE₂ *tu* CP201; =A257
 TONGUE₂ *tulak* P257
TONGUE₃ *nene* A258
 TOOTH *it^sau* H152; =E117;
 =CA83; =MG113
 TOOTH *je* MC70
 TOOTH *onen* AK194; =CP202
 TOOTH *pe* MT93
 TOOTH *te* CA83; =H152; =E117;
 =MG113
 TOOTH *tio* MG113; =H152;
 =CA83; =E117
 TOOTH₁ *nai* E116
 TOOTH₁ *nene* CP202; =AK194
 TOOTH₁ *t'ik* P258
 TOOTH₂ *ati* E117; =H152;
 =CA83; =MG113
 TOOTH₂ *kita* CP203
 TOOTH₂ *teli* P259
 TOPICALIZER *te* G41 [CP]
 TORTOISE *katu* MG114
 TOUCH *kata* CP204
 TOUCH *pit* P260
 TOWARD/AWAY *m/k* G99 [H]
 TREE *apa* P261; =E118
 TREE *awa* E118; =P261
 TREE *naku* AN116
 TREE *topa* MC71; =MT95; =E47;

- =P235
 TREE₁ *juka* MT94
 TREE₁ *ko* CA84; =A275
 TREE₁ *mis* AK195
TREE₁ *tua* A259
 TREE₂ *lat* AK196
TREE₂ *nana* A260
 TREE₂ *so* CA85
 TREE₂ *tamba* MT95; =MC71;
 =E47; =P235
TREE₃ *kan* A261
 TRUNK *kurku* AN117
 TURN *k'ot* P262
 TURTLE₁ *niwot* AK197
 TURTLE₂ *kis* AK198
 TWO *ačui* AK199
 TWO *hoka* H153; =AN82
 TWO *mena* MC72
TWO *pal* A262
 TWO *soki* AN118
 TWO *wi* CA86
 UGLY *mane* E119
 UGLY *po* CA87
 UNCLE *kan* P263; =AK91
 UNCLE *nari* AN119
 UNDER *iti* H154
 UNDER *kama* CP205
 UNDER *papo* MC73
 UNTIE *lauk* CP206
 UP *apala* H155; =P220
 UPON *wina* H156
 URINE *jiso* MP61; =P264;
 =CP208
 URINE *kane* MT96
 URINE *saka* AK200; =E120
 URINE *t^sako* E120; =AK200
 URINE *wuš* P264; =CP208;
 =MP61
 URINE₁ *t^sipi* CP207
 URINE₂ *wisi* CP208; =P264;
- =MP61
 VAGINA *eni* MC74; =MT97;
 =P265
 VAGINA *nes* P265; =MT97;
 =MC74
VAGINA *petu* A263; =E121
 VAGINA *susi* CP209
 VAGINA *t^supote* E121; =A263
 VEIN *pala* E122
 VEIN *pok* P266
 VEIN *tau* CP210
 VOMIT *čuña* AN120
 VULVA₁ *jaʔne* MT97; =MC74;
 =P265
 VULVA₂ *de* MT98
 WAIT *moki* MC75
 WALK *pa* MG115; =A9; =CP34;
 =MC24
 WALK *wi(n)* P267; =AK50;
 =H72; =E48
 WASH *kupe* MG116
 WASH *?o* CA88
 WASH₁ *paki* H157; =A20;
 =MP59; =AK77
 WASH₁ *t^so* P268
 WASH₂ *huka* P269; =CP11
 WASH₂ *pola* H158
 WASH₃ *jok* P270
 WASP *bot^s* AK201
 WASP *miu* MG117; =A27; =AK79
 WASP *uti* MT99; =CP79
 WASP *šušu* P271
 WATER *ide* MT100; =P272;
 =H44
 WATER *iše* P272; =H44;
 =MT100; cf. MG94
 WATER *kota* AN121; =CP51;
 =MG33; =E64
 WATER *kuŋ* MG118; =A87;
 =AK185; =CP152

- WATER₁ *ma* CP211; =A89;
 =E125; AN97
WATER₁ *mani* A264
 WATER₁ *uni* E123
 WATER₂ *hija* E124
 WATER₂ *li* CP212; =AK109
WATER₂ *poi* A265
 WATER₃ *jume* E125; =A89;
 =CP211; =AN97
 WAX *koma* MT101
 WAX *mobi* CP213
 WAX *moro* MC76
 WE *sun* G4 [MP]
 WE *to* G5 [MT]
WE INCLUSIVE *s* G21 [A]
 WE 2 *ko* G28 [MC]; ?=G10;
 ?=G19
WE 2 INCLUSIVE *ki* G19 [A];
 ?=G10; ?=G28
 WE 2 INCLUSIVE *ō* G20 [K]
 WEAK *jel* MP62
 WEAK *ñiña* MG119
 WEAVE *vik* H159; =P208
 WET *paku* CP214; =P273
 WET₁ *pak* P273; =CP214
 WET₂ *lokak* P274
 WHITE *jurak* AN122
 WHITE *kel* P275
 WHITE *matal* H160
 WHITE *mone* MC77
 WHITE *ta?* CA89
WHITE₁ *pole* A266
 WHITE₁ *tara* CP215; =MG120
 WHITE₁ *tora* MG120; =CP215
 WHITE₂ *kuat^a* CP216
 WHITE₂ *oka* MG121
WHITE₂ *pek* A267
 WIFE *ta* H161; cf. MG123
 WIND₁ *kela* AN123; =P276
 WIND₁ *wani* MT102
 WIND₁ (N.) *kuli* P276; =AN123
 WIND₂ *fik* AN124
 WIND₂ *owa* MT103
 WIND₂ (N.) *pant^s* P277
 WIND (N.) *?aja* H162
WIND (N.) *kuki* A268
 WIND (N.) *laq* AK202
 WIND (N.) *puluk* CP217
WING *kampi* A269
 WING *peto* AK203; =P99
 WING *tana* E126; =H77
 WING₁ *keka* CP218
 WING₁ *li* P278
 WING₂ *pako* CP219; =P214;
 =MT46; =A7
 WING₂ *tap* P279
 WISH *ina* AN125; =G83
 WISH *k'uni* H163
WISH *mena* A270
 WISH *naq* AK204
 WISH *pea* CP220
 WISH *rani* MC78
 WISH *taku* MT104
 WISH₁ *hata* E127
 WISH₁ *saka* P280
 WISH₂ *ea* E128
 WISH₂ *san* P281
 WISH₃ *kau* P282
 WOLF *kua* CA90; =A86
 WOMAN *kana* P283; =A272;
 =H164
 WOMAN *pen* MP63; =CA1; =AN9
 WOMAN *wato* MC79
 WOMAN *ihō* AK205
 WOMAN₁ *kapa* MT105
 WOMAN₁ *kuan* H164; =A272;
 =P283
 WOMAN₁ *pako* MG122
WOMAN₁ *tom* A271
 WOMAN₁ *tuna* E129; =A125;

- =MT106; =MG41
 WOMAN₁ *wale* CP221
 WOMAN₂ *kame* E130
 WOMAN₂ *keko* H165
WOMAN₂ *kuna* A272; =P283;
 =H164
 WOMAN₂ *sunā* CP222; =A273;
 =CA41
 WOMAN₂ *tain* MT106; =A125;
 =E129; =MG41
 WOMAN₂ *ti* MG123; cf. H161
 WOMAN₃ *mati* H166
WOMAN₃ *sun* A273; =CA41;
 =CP222
 WOOD *lak* AK206; =A45
WOOD₁ *ije* A274
 WOOD₁ *kauk* P284
WOOD₂ *ake* A275; =CA84
 WOOD₂ *tok* P285; cf. A54;
 cf. A251; cf. AK108
 WORK₁ (v.) *kampa* CP223
WORK₁ (v.) *kua* A276
 WORK₂ (v.) *noni* CP224; =E76
WORK₂ (v.) *pi* A277
- WORM *kesi* CP225
 WORM *laua* AN126
 WORM *moka* H167
 WORM₁ *t^sumpo* E131; =A241
 WORM₁ *čuwi* AK207
 WORM₂ *jak^we* AK208
 WORM₂ *niñi* E132
 YELLOW *jalū* H168
 YELLOW *kas* P286
 YELLOW *put^sia* MT107
 YELLOW *sunga* CP226
 YELLOW *tal* AN127
 YELLOW *teka* AK209; ?=A279
 YELLOW *čaken* E133
YELLOW₁ *tampa* A278
YELLOW₂ *t^si* A279
 YESTERDAY *ija* AN128
YESTERDAY *kani* A280
YOUNG *kuta* A281; =H29;
 =AK44; =P88
 YOUNG *mani* AN129
 YOUNG₁ *mu* P287
 YOUNG₂ *čumat* P288

Additional Amerind Etymologies

A further sifting of the 2,003 etymologies contained in Joseph Greenberg's *Language in the Americas* (1987, Stanford) suggests that some of the etymologies presented in support of one or another of the eleven Amerind subgroups should, rather, be combined to form an etymology supporting the Amerind family itself. The following list indicates such possible consolidations. The forms given in the etymologies are only those sufficient to suggest that the etymologies should in fact be combined. For all of the additional forms the reader should consult Greenberg's book. Some of these proposed consolidations seem wholly defensible; future research must show whether others, of a more tentative nature, should be corroborated or rejected. In addition to these new Amerind etymologies, there are also cases where an etymology for an Amerind subgroup should be combined with an already existing Amerind etymology. Such possible cases are listed at the end of the chapter. Finally, there are a few cases of consolidation within Amerind subgroups; these too are listed at the end of the chapter.

ADDITIONAL AMERIND ETYMOLOGIES

The numbering of these proposed etymologies begins at 282 to indicate that they are supplementary to the 281 Amerind (lexical) etymologies contained in *Language in the Americas*. The number of the etymology in Greenberg's book is given after the Amerind subgroup. Thus "PENUTIAN [3]" refers to Greenberg's third Penutian etymology. Where no number follows the Amerind

subgroup, the forms cited have been taken from Greenberg's unpublished Amerindian notebooks (1981) or other sources. Forms without glosses have the same meaning as that given for the respective Amerind subgroup.

282 ALL

ALMOSAN-KERESIOUAN [4] ALL. Wiyot *qat^s* 'be many,' Thompson *hwet*, Kitsai *akwat^s*.

PENUTIAN [3] ALL. Coos *gōs*, Atakapa *kuš*, Tzeltal *k'aš* 'very,' Quiché *k'is* 'finish.'

283 ANUS

CHIBCHAN-PAEZAN [3] ANUS. Paez *kuts*, Bintucua *gase*, Borunca *kas* 'ravine.'

ANDEAN [4] ANUS. Qawashqar *kioot-pe*, Gennaken *oqoti*, Yamana *guta* 'hole.'

284 ARM

HOKAN [5] ARM. Yana *galu*, Southeast Pomo *xal*.

CHIBCHAN-PAEZAN [4] ARM. Guamaca *gula*, Gualaca *kula* 'hand,' Guambiana *kwal*.

285 ARRIVE

PENUTIAN [8] ARRIVE. Bodega *wila* 'come!,' Kekchí *uli*, Yakonan *wīl*.

HOKAN [49] ENTER. Achomawi *uilu*, Yahi *wul* 'entering.'

286 AUNT

CENTRAL AMERIND [1] AUNT. Proto-Uto-Aztecan **pa*, Proto-Oto-Man-guean **k^wa(H)(n)*.

ANDEAN [9] AUNT. Tehuelche *epan*, Cholona *pan* 'mother.'

MACRO-PANOAN [63] WOMAN. Moseten *pen*, Proto-Tacanan **e-pona*.

287 BACK

HOKAN [11] BACK. Yana *mak'i*, Comecrudo *wamak* 'behind.'

CHIBCHAN-PAEZAN [190] TAIL. Colorado *meh*, Ulua *umax-ka*.

288 BACK

CHIBCHAN-PAEZAN [14] BEHIND. Allentiac *punak*, Colorado *bene*.

MACRO-GE [5] BACK. Guato *ipana* 'tail,' Apucarana *pani*, Bororo *i-puru*.

289 BE

ALMOSAN-KERESIOUAN [13] BE. Wichita *ʔi*, Cherokee *i*.

MACRO-PANOAN [9] BE. Mataco *hi*, Mascoc *h-*.

290 BEHIND

ALMOSAN-KERESIOUAN [19] BEHIND. Yurok *hinoj*, Cherokee *ōni*, Kutenai *iʔ*.

EQUATORIAL [110] TAIL. Cayuvava *eñe*, Paresi *inihu*, Saliba *inea*.

291 BELLY

ALMOSAN-KERESIOUAN [33] BREAST. Acoma (*ka-*)*si*, Hidatsa *at^{si}* (< **a-si*).

CENTRAL AMERIND [4] BELLY. Tewa *sī*, Proto-Oto-Manguean **(n)(ʔ)se(h)(n)*, Mono *sihi* 'intestines,' Opata *siwa-t*.

292 BIRD

ALMOSAN-KERESIOUAN [22] BIRD. Proto-Central Algonquian **šišīpa*, Bella Bella *t^{si}it^{si}ipe*.

ANDEAN [12] BAT. Quechua *t^{si}ikt^{si}i*, Gennaken *čexčux*.

293 BLACK

CHIBCHAN-PAEZAN [19] BLACK. Borunca *turināt*, Tarascan *tuli*, Chami *tauri* 'shadow.'

MACRO-TUCANOAN [10] BLACK. Mobima *tuni*, Southern Nambikwara *t'un*.

294 BLOOD

ALMOSAN-KERESIOUAN [157] RED. Proto-Algonquian **mečkwī*, Santa Ana *mʔaʔat^{si}i*, Bella Bella *muk^w*.

PENUTIAN [18] BLOOD. Tsimshian *misk* 'red,' Atakapa *pošk*, Yokuts *pajčikin*.

295 BLOOD

EQUATORIAL [18] BLOOD. Tora *wi*, Santa Rosa *xue*, Proto-Tupi **uwi*.

MACRO-PANOAN [12] BLOOD. Lule *ewe*, Chunupi *woi*, Chama *woʔo* 'red.'

296 BREAST

MACRO-TUCANOAN [18] BREAST. Capixana *njānō* 'bosom,' Huari *nini*, Ticuna *nonnon*.

MACRO-GE [9] BELLY. Kradaho *i-nioŋu*, Mashakali *inioñ*.

297 BREAST

CENTRAL AMERIND [9] BREAST. Tewa *pĩ*, Proto-Oto-Manguean
**k^{wi}(ʔ)(n)*, Proto-Uto-Aztecan **pi*.

CHIBCHAN-PAEZAN [15] BELLY. Tucura *bi*, Colorado *bi* 'inside,' Mata-
galpa pu.

MACRO-TUCANOAN [17] BREAST. Wanana *peno*, Hubde *pwun*, Kaliana
wi.

298 BREAST

PENUTIAN [25] BREAST. Chorti *ču*, Tunica *ʔuču*.

PENUTIAN [107] HEART. Atakapa *šo*, Yuki *t'u* 'belly,' Zuni *t^{su}* 'stomach.'

HOKAN [25] BREAST. Washo *šū*, Chumash *s-čwø*, Karok *ʔūčič*.

CHIBCHAN-PAEZAN [98] HEART. Dobocubi *iši* 'belly,' Ulua *asung* 'liver,'
Sambu izo.

299 BROTHER

ANDEAN [101] SISTER. Culli *kañi*, Cholona *akiñiu*.

MACRO-PANOAN [16] BROTHER. Lule *kani*, Choroti *kiini*.

300 BURN

CHIBCHAN-PAEZAN [105] HOT. Paez *bač* 'become hot,' Dobocubi *bočon*
'heat.'

CHIBCHAN-PAEZAN [109] KINDLE. Bribri *pat^e*, Paez *apaz* 'burn,' Paya
pas.

MACRO-GE [18] BURN. Botocudo *pek*, Karaho *puk*, Erikbatsa
okpog(-maha).

301 BURN

ALMOSAN-KERESIOUAN [37] BURN. Santa Ana *hā-k'a-ni* 'fire,' Kutenai
ko.

CENTRAL AMERIND [11] BURN. Proto-Oto-Manguean **ka*, Proto-Uto-
 Aztecan **ku*, *koʔ* 'fire,' Taos *xa* 'roast.'

302 BURN

ALMOSAN-KERESIOUAN COOK. Proto-Salish **wəɬq^w* 'cook, boil,' Upper
 Chehalis *wλq^w* 'cook.'

PENUTIAN BURN. Tsimshian *māʔlk*, Nass *meʔ*, Takelma *meʔl*, Siuslaw
maʔč, Nisenan *molmol* 'boil,' Patwin *māʔa* 'cook.'

HOKAN [19, 26] BURN. Yana *maʔlak* 'bake,' South Pomo *māli*, Washo
meli 'make a fire,' Jicaque *myolko* 'boil.'

CENTRAL AMERIND BOIL. *Zacapoaxtla momoluca.*

303 BUY

ALMOSAN-KERESIOUAN [40] BUY. *Shuswap tew*, *Kwakiutl da* 'take.'

CENTRAL AMERIND [13] BUY. Proto-Oto-Manguean **te*, Proto-Aztec-Tanoan **ty*.

304 CHEEK

HOKAN [28] CHEEK. *Jicaque p^hok*, *Tequistlatec bege*.

MACRO-CARIB [9] CHEEK. *Motilon ipæpok*, *Ocaina faʔxon*.

305 CLOSE

PENUTIAN [109] HIDE. *Yakima ik*, Central Sierra Miwok *?okoj* 'cover,'
Chitimacha ʔiki, *Quiché k'uj*.

CENTRAL AMERIND [15] CLOSE. Proto-Oto-Manguean **ku* 'close, cover,'
Taos k^{wi}-l.

306 CLOSE

PENUTIAN [39] CLOSE. *Atakapa pan*, *Wappo pən*, *Maidu ban* 'cover.'

MACRO-PANOAN [17] CLOSE. *Choroti pone*, *Cavineña pene*.

307 COLD

CENTRAL AMERIND [18] COLD. *Kiowa t'o* 'be cold,' Proto-Oto-Manguean
**tome*.

EQUATORIAL [27] COLD. *Saliba duha*, *Toyeri dohina*.

308 COLD

CENTRAL AMERIND [16] COLD. *Taos k'o*, Proto-Oto-Manguean **k^{wi}(n)*,
Proto-Uto-Aztecan **k^{wi}*.

MACRO-PANOAN [19] COLD. *Chunupi kui*, *Lule kei*.

309 COLD

CENTRAL AMERIND [17] COLD. *Taos t^sia*, Proto-Aztec-Tanoan **t^sija*,
Proto-Uto-Aztecan **sep*.

EQUATORIAL [28] COLD. *Yaruro čiwah*, *Taruma siwa*.

310 COME

HOKAN [74] GO OUT. *Tonkawa ta*, *Atsugewi -ta* 'out of,' *Chimariko tap*
'out of.'

CHIBCHAN-PAEZAN [35] COME. *Cuna -ta* 'go,' *Xinca taa*, *Itonama t'o*.

311 COME

PENUTIAN [189] RETURN. Nez Perce *toq*, Tsimshian *adək* 'turn back.'
CHIBCHAN-PAEZAN [36] COME. Cuna *taka*, Paya *tek*.

312 COME

PENUTIAN [187] RETURN. Proto-Maidu **joʔk^he*, Tunica *jaka*.
ANDEAN [24] COME. Araucanian *aku* 'arrive,' Kahuapana *kwa*, Zaparo
ikwa 'go.'
Cf. No. 347 below.

313 COME

ALMOSAN-KERESIOUAN [49] COME. Wiyot *how*, Cheyenne *ho*, Proto-
Siouan **hu* 'arrive.'
CHIBCHAN-PAEZAN [37] COME. Atakama *hau*, Cayapa *ha*.

314 COOK

PENUTIAN [23] BOIL. Wappo *k^hohk^hoh*, Atakapa *uk*.
MACRO-TUCANOAN [23] COOK. Siona *kwako*, Puinave *a-kag*.

315 CLOUD

PENUTIAN [40] CLOUD. Coast Yuki *poʔtit*, Yakima *pasčit* 'fog.'
EQUATORIAL [59] HEAVEN. Ebidoso *pod*, Guayabero *fato*, Timote *ki-
veuč* 'cloud.'

316 COVER

HOKAN [31] COVER. Washo *it^sig* 'close,' Northeast Pomo *šik'o* 'blanket,' Karok *-čak* 'closing up.'
HOKAN [58] FINISH. North Yana *dik'au*, Tonkawa *tōxa*.
CHIBCHAN-PAEZAN [40] COVER. Tarascan *šuku-ta-hpe-ni*, Tunebo *teka-ra* 'poncho,' Cuna *tukusii* 'be hidden.'
MACRO-GE [31] DRESS. Botocudo *atak*, Caraja *taku* 'clothing,' Caraja *deku* 'woman's shirt.'

317 COVER

HOKAN [32] COVER. Karok *sap* 'close,' Mohave *sapet* 'close,' Yurumanguí *sipa-na* 'hat.'
CHIBCHAN-PAEZAN [73] FINISH. Itonama *soʔp*, Eten *siaip*.

318 CRY

HOKAN [34] CRY. Washo *ib*, Jicaque *pija*, Karok *ʔivūr* 'weep for.'

MACRO-GE [26] CRY. Chiquito *ipu*, Tibagi *fua*, Mashakali *opo* 'he cries.'

319 DANCE

CHIBCHAN-PAEZAN [43] DANCE. Itonama *tuluke*, Colorado *terake-de*.

MACRO-TUCANOAN [25] DANCE. Yuri *tarøhene*, Mobima *telo*.

320 DEER

CHIBCHAN-PAEZAN [46] DEER. Cayapa *mana*, Barira *maana* 'meat.'

ANDEAN [60] JAGUAR. Jebero *amana*, Auca *mēnē*.

321 DOG

HOKAN [41] DOG. Washo *gušu*, San Antonio *xuč*, Coahuilteco *keš*.

CENTRAL AMERIND [28] DOG. Proto-Uto-Aztec **t^su*, Piro *t^sue*.

MACRO-CARIB [12] DEER. Miranya *gøhsu*, Witoto *kyto*, Bakairí *kxose-ka*.

322 EAR

PENUTIAN [106] HEAR. Choctaw *ikhana* 'hear,' Yuki *hāl* 'hear.'

EQUATORIAL [34] EAR. Moxo *nu-kiña*, Uro *kuñi*.

323 EAR

ALMOSAN-KERESIOUAN [58] EAR. Santa Ana *s'-īpe* 'my ear,' Hidatsa *apa* 'animal's ear.'

MACRO-GE [61] HEAR. Botocudo *apa*, Karaho *pa*.

324 EARTH

ANDEAN [32] EARTH. Quechua *pat^sa* 'ground,' Hivito *put^s*.

MACRO-TUCANOAN [31] EARTH. Iranshe *bata*, Puinave (*m*)*baytçi*.

325 EARTH

CHIBCHAN-PAEZAN [59] EARTH. Paya *kuka*, Borunca *kak*, Manare *kakka* 'world.'

MACRO-TUCANOAN [32] EARTH. Auixiri *okake*, Capixana *kekeke*, Dou *čax*.

326 EARTH

HOKAN [40] DIRTY. Tipai *xpiṭ* 'dirty,' Comecrudo *papeleple* 'dirty.'

CHIBCHAN-PAEZAN [58] EARTH. Cuaiquer *piḶ*, Timucua *pile* 'field,' Guambiana *pire*.

327 EAT

ALMOSAN-KERESIOUAN [59] EAT. Proto-Central Algonquian *-am- 'eat small inanimate object,' Kalispel *ʔem* 'feed.'

ALMOSAN-KERESIOUAN [131] MOUTH. Chippewa -am 'by mouth,' Nootka *m'a* 'hold in mouth.'

HOKAN [46] EAT. Achomawi *ām*, Chimariko -ama-, Esselen *am*, Quinigua *ama* 'eat fish,' Yana *ma*, Yuma *ama*.

328 ELBOW

ALMOSAN-KERESIOUAN [52] CROOKED. Mohawk *aʔktu*, Shawnee *kotekwi* 'turn,' Squamish *kʷutʰsun*, Yuchi *kota*.

PENUTIAN [63] ELBOW. Yaudanchi *kʰoʃoji*, Creek *ekučē*, North Sahaptin *kʰašinu*, Sierra Popoluca *kōsu* 'knee.'

329 ELBOW

PENUTIAN [62] ELBOW. Atakapa *šuk*, Uspantec *čuk*.

CHIBCHAN-PAEZAN [61] ELBOW. Tarascan *kukui-si*, Paya *kokisa* 'knee,' Sinsiga *kuika*.

330 EYE

PENUTIAN [150] LOOK. Maidu *tʰen* 'look,' Zoque *tuʔn* 'look at,' Takelma *tʰelei*, Zuni *tuna*.

CHIBCHAN-PAEZAN [159] SEE. Millcayac *tene(-kina)*, Norteño *teen*, Xinka *tili*.

ANDEAN [34] EYE. Qawashqar *teʃ*, Yamana *tella*.

331 EYE

ALMOSAN-KERESIOUAN [163] SEE. Mohawk *kā*, Hidatsa *ika*, Yuchi *k'a* 'watch.'

MACRO-TUCANOAN [36] EYE. Capixana *i-kaē*, Proto-Nambikwara **eika*, Bendiapa *iku*.

332 EYE

MACRO-TUCANOAN [34] EYE. Canichana *tokhe*, Auixiri *atuka*.

EQUATORIAL [39] EYE. Itene *tok*, Santa Rosa *tuxua*, Caranga *čukʰi*.

333 EYE

ALMOSAN-KERESIOUAN [63] EYE. Nitinat *qaliʔ*, Pentlatch *kəlom*, Nisqualli *kalob*, Tillamook -*gāʔ*-, Kutenai -*qʰiʔ*-, Quileute -*qaʔ* 'look at,' Wiyot *tu-kʔ* 'watch,' Yurok *kʷəʔ* 'image,' Kwakiutl *qwāxwa* 'see,' Proto-North

Iroquoian **kakáhra?* 'eyes,' Mohawk *okàra?* 'eyes,' Oneida *okàla?* 'eyes,'
Pawnee *kiriku* 'eye, look at,' Wichita *kirik'a*.

PENUTIAN EYE. Tfalatik *kwallak*, Coos *xwalxwal*, North Sahaptin *wal* 'by
sight,' Atakapa *wōl*, Coast Yuki *hul*, Wintun *?aʔ-ma* 'look,' Chinook *kəl*
'see,' Huastec *wal*, Tzotzil *k'alel* 'look.'

HOKAN SEE. East Pomo *kār-*, Yana *kel* 'peer,' Cochimi *gir*, ?Tonkawa
helʔeya 'look.'

CHIBCHAN-PAEZAN EYE. Itonama *uj-k'ururu*, Cayapa *querā-* 'appear,'
Colorado *kiriasa* 'see.'

ANDEAN LOOK. Qawashqar *qualeona*, Zaparo *kariyā*.

MACRO-TUCANOAN EYE. Bahukīwa *djakoli*, Cubeo *yakoli* ~ *yakori*.

EQUATORIAL EYE. Manao *nu-kurika*, Itene *ikirikira* 'look,' Callahuaya
khura-na 'see.'

MACRO-PANOAN EYE. Caduveo *oge-kuře*, Opaye *či-gareye*.

MACRO-GE EYE. Mashubi *akari*.

334 FAR

PENUTIAN [70] FAR. Atakapa *ja*, Zoque *jaʔaj*.

CHIBCHAN-PAEZAN [66] FAR. Cuitlatec *jaj-*, Tarascan *io-* 'high, long.'

335 FAT

CHIBCHAN-PAEZAN [68] FAT. Cuitlatec *kuji*, Timucua *uke*, Tirub *kio*.

MACRO-CARIB [20] FAT. Nonuya *kwi*, Andoke *kehə*.

336 FEAR

PENUTIAN [74] FEAR. Yaudanchi *bax*, Chol *bʔuknian*.

MACRO-PANOAN [34] HATE. Abipone *n-paak* 'hated,' Moseten *fakoj*.

337 FIRE

ALMOSAN-KERESIOUAN [73] FIRE. Proto-Central Algonquian *-*su* 'by
heat,' Northern Arapaho *isei*, Squamish *tm-iʔis* 'summer' (*tm* = 'season').

EQUATORIAL [43] FIRE. Chapacura *ise*, Guahibo *iso*, Kamaru *isu*, Amue-
sha *soʔ*.

338 FIRE

HOKAN [61] FIRE. Karok *ʔāha*, Kashaya *ʔoho*, San Antonio *ʔ-aʔauh*, Kili-
wa *ʔaau*.

ANDEAN [8] ASHES. Yamana *əxwa*, Tsoneka *ahe*, Itucale *auxe* 'charcoal.'

339 FIRE

ALMOSAN-KERESIOUAN [72] FIRE. Acoma *baja* 'make fire,' Osage *poe* 'flames.'

CENTRAL AMERIND [36] FIRE. Piro *faje*, Isleta *p^hāi-de*, Proto-Oto-Man-guean **(n)(h)k^wa* 'hot.'

340 FISH

ANDEAN [38] FISH. Sechura *suma*, Jebero *samer*.

MACRO-TUCANOAN [42] FISH. Pankaruru *kami(-jo)*, Tiquie *homp*.

EQUATORIAL [44] FISH. Piro *čima*, Chapacura *išuum*, Tora *hoam*.

341 FLOWER

CHIBCHAN-PAEZAN [78] FLOWER. Cuitlatec *tuxtū*, Cuna *tutu*.

ANDEAN [40] FLOWER. Catacao *čukču(m)*, Culli *čuču*.

342 FLOWER

ALMOSAN-KERESIOUAN [78] FLOWER. Proto-Central Algonquian **paQk*, Twana *s-p'q'ab*.

PENUTIAN [20] BLOOM. Proto-Muskogean **pak* 'bloom,' Tetontepec *puk*, Huave *mbah*.

343 FLY (v.)

PENUTIAN [84] FLY. Hitchiti *jaka*, Wappo *jokko*.

MACRO-TUCANOAN [9] BIRD. Proto-Nambikwara **paik* 'bird,' Iranshe *it^si* 'bird,' Ticuna *goe*.

344 FLY (n.)

CHIBCHAN-PAEZAN [79] FLY. Yupultepec *usu* 'fly, wasp,' Cuitlatec *øhi*.

MACRO-TUCANOAN [99] WASP. Uasona *utia*, Iranshe *ači*.

345 FULL

PENUTIAN [86] FULL. Coos *paa* 'to fill,' Maidu *pe*, Atakapa *pū*.

ANDEAN [2] ALL. Auca *baa*, Kahuapana *ipa* 'enough.'

346 FULL

ALMOSAN-KERESIOUAN [83] FULL. Quapaw *panā* 'all,' Proto-Salish **p'ər* 'overflow.'

HOKAN [69] FULL. North Yana *baʔni* 'be full,' Yurumangui *pini-ta* 'empty' (-*ta* is negative.).

347 GO

PENUTIAN [64] ENTER. Mutsun *akku*, Tunica *?aka* 'come in,' Central Sierra Miwok *?ūk*, Kakchiquel *ok*.

HOKAN [73] GO. Cocopa *?ax*, North Yana *ha* 'woman goes,' Chimariko *a*. Cf. No. 312 above.

348 GO

ALMOSAN-KERESIOUAN [50] COME. Wiyot *wa* 'go,' Yuchi *wi*, Kutenai *w* 'arrive.'

PENUTIAN [267] WALK. Plains Miwok *wən*, Atakapa *wang*, Takelma *wī* 'go about.'

HOKAN [72] GO. East Pomo *wa-*, Quinigua *wan*, Tequistlatec *wa*.

EQUATORIAL [48] GO. Coche *wajo* 'walk,' Dzubucua *wa*, Saliba *wa*.

349 GO

EQUATORIAL [49] GO OUT. Cayuvava *βorɔ*, Yuracare *porere*.

MACRO-GE [92] ROAD. Botocudo *mporō*, Proto-Ge **pri*.

350 GOOD

ALMOSAN-KERESIOUAN [88] GOOD. Proto-Algonquian **kan* 'beautiful,' Mohawk *akarite* 'be healthy,' Catawba *kəri*, Tillamook *k'unək* 'beautiful.'

PENUTIAN [15] BEAUTIFUL. Central Sierra Miwok *kəlli* 'healthy,' North Wintu *čal*, Jacaltepec *č'ul*.

HOKAN [75] GOOD. Cotoname *kenax*, Akwa'ala *xan*.

MACRO-CARIB [2] BEAUTIFUL. Proto-Carib **kuule* 'good,' Ocaina *xa-rooga*.

351 GOOD

CHIBCHAN-PAEZAN [86] GOOD. Dobocubi *baj*, Chiripo *bui*.

MACRO-GE [7] BEAUTIFUL. Krenje *pej* 'beautiful, good,' Mashakali *epai*, Malali *epoi*.

352 GRANDFATHER

ALMOSAN-KERESIOUAN [90] GRANDFATHER. Yurok *pit^sowas*, Ojibwa *ne-miššomis* 'my grandfather.'

MACRO-CARIB [25] GRANDFATHER. Nahugua *apit^{si}*, Andoke *japitah*.

353 GRANDFATHER

ALMOSAN-KERESIOUAN [91] GRANDFATHER. Pawnee *ikani*, Biloxi

ikoni.

PENUTIAN [263] UNCLE. Chitimacha *kan* 'paternal uncle,' Quiché *ikan* 'uncle.'

354 GRASS

PENUTIAN [93] GRASS. Proto-California Penutian **pu*, Chitimacha *po*, Zuni *pe*.

CHIBCHAN-PAEZAN [88] GRASS. Chimu *pe*, Cuitlatec *bejoʔo*, Guambiana *pu*.

355 HAIR

CENTRAL AMERIND [44] HAIR. Proto-Uto-Aztecan **t^soni* 'body hair,' Proto-Oto-Manguean *(*Y*)*su(n)*.

EQUATORIAL [55] HAIR. Tora *tuni*, Piapoco *čona*.

356 HAIR

PENUTIAN [75] FEATHER. Atakapa *li* 'feather,' Tsimshian *li* 'feather,' Zuni *la* 'feather.'

ANDEAN [52] HAIR. Ona *aal*, Yamana *ali* 'feather.'

MACRO-GE [57] HAIR. Erikbatsa *ka-ari*, Fulnio *li*, Krenje *ara* 'down.'

357 HAND

PENUTIAN [7] ARM. Atakapa *wiš*, Natchez *ʔiś* 'arm, hand,' Huave *owiś*, Yuki *hyss*, Mutsun *isu* 'hand.'

ANDEAN [53] HAND. Yamana *još*, Tehuelche *oš*.

358 HAND

ALMOSAN-KERESIOUAN [93] HAND. Blackfoot *-kit^s* 'finger,' Squamish *čis*.

PENUTIAN [89] GIVE. Natchez *kus*, Quiché *koč* 'gift.'

CHIBCHAN-PAEZAN [92] HAND. Norteño *kuse*, Move *kise*, Paez *kose*, Borunca *i-kus(-kua)* 'finger.'

359 HAND

HOKAN [77] HAND. Chimariko *-teni*, South Pomo *t^hāna*.

EQUATORIAL [126] WING. Urupa *tiñi*, Bare *dana* 'arm.'

360 HAND

ALMOSAN-KERESIOUAN [203] WING. Proto-Algonquian **na-xpeto-ni*, Pawnee *pīd*, Bella Bella *p^ət^l-am*.

PENUTIAN [99] HAND. Yokuts *p^hu^hʔɔŋ*, Chinook *pote* 'arm,' Kalapuya *putukwi* 'arm.'

PENUTIAN [243] TAKE. Alabama *pota*, Wappo *pita*.

PENUTIAN [260] TOUCH. Proto-Muskogean **put* 'touch,' Wappo *pito* 'touch.'

361 HAND

ALMOSAN-KERESIOUAN [94] HAND. Proto-Siouan **šaki*, Caddo *sik*.

CHIBCHAN-PAEZAN [93] HAND. Andaquei *saka-a*, Chibcha *yta-saka*, Tiribi *sak-wo* 'finger.'

362 HEAD

ALMOSAN-KERESIOUAN [96] HEAD. Cherokee *u-sko-li*, Kwakiutl *səq'a* 'over,' Tutelo *sako* 'above.'

CHIBCHAN-PAEZAN [96] HEAD. Betoï *ro-saka*, Bintucua *saku-ku* 'skull,' Cuna *sakla*, Jutiapa *usaxle*.

363 HEART

HOKAN [82] HEART. East Pomo *t^sukun*, North Yana *d^zugut^si*, San Antonio *šk'oʔil* 'lungs.'

CHIBCHAN-PAEZAN [107] KIDNEY. Cabecar *sokko*, Paya *sakka* 'spleen.'

364 HIT

ALMOSAN-KERESIOUAN [153] POUND. Coeur d'Alene *tiʔ*, Caddo *daʔ* 'pound corn,' Kutenai *t'ā-* 'knock.'

PENUTIAN [110] HIT. Coos *tōh*, Wappo *təh*, Natchez *ta*.

ANDEAN [37] FIGHT. Qawashqar *toks*, Aymara *tok'e* 'quarrel.'

365 HIT

PENUTIAN [14] BEAT. Atakapa *pak*, Maidu *bok-*.

CENTRAL AMERIND [47] HIT. Proto-Uto-Aztecan **pa*, Proto-Oto-Manguan **(n)(h)k^wa(h)*.

366 HOLE

PENUTIAN [115] HOLE. Lake Miwok *talok^h*, Atakapa *tol* 'anus,' Takelma *telkan* 'buttocks.'

MACRO-GE [65] HOLE. Kaingan *doro*, Coroado *dore* 'cave.'

367 HOUSE

CENTRAL AMERIND [48] HOUSE. Proto-Oto-Manguan **(n)ka(H)(n)*,

Proto-Uto-Aztecan *ki.

MACRO-CARIB [29] HOUSE. Muinane *ixa*, Taulipang *kə* 'stay.'

368 HUSBAND

PENUTIAN [122] HUSBAND. Huchnom *i-na*, Cayuse *inaiu*, Tepehua *noh*.

MACRO-CARIB [31] HUSBAND. Proto-Carib *ino, Witoto *inuj*.

369 IMPERATIVE

G88 [Hokan] IMPERATIVE. Yana *-ʔi*, Karok *-i*, Salinan *-i*, Yurumangui *-i*.

G91 [Keresiouan] IMPERATIVE. Wichita *hi-*, Keres *ʔi*.

370 INTERROGATIVE

G106 [Penutian] WHAT? Central Sierra Miwok *tinnə*, North Sahaptin *tunn*, Siuslaw *tən*, Chinook *tan*, Totonac *tu*.

MACRO-GE [68] HOW MANY? Botocudo *tan*, Palmas *ndena*.

371 LARGE

HOKAN [89] LARGE. Jicaque *-po* (augmentative), Subtiaba *-mba* (augmentative).

CHIBCHAN-PAEZAN [110] LARGE. Duit *oba*, Itonama *bi*, Chilanga *buj*.

372 LARGE

ANDEAN [64] LARGE. Leco *umun*, Iquito *uumaana*.

MACRO-CARIB [32] LARGE. Proto-Carib *moonomi, Ocaina *aamon* 'grow.'

373 LEFT (SIDE)

ALMOSAN-KERESIOUAN [112] LEFT. Nootka *qat^s*, Proto-Salish *t^siq^w, Yurok *kes(-omewet)*.

MACRO-GE [71] LEFT. Proto-Ge *kεč, Mashakali čáč.

374 LEG

ALMOSAN-KERESIOUAN [113] LEG. Fox *-ska-* 'with the foot,' Yurok *t^ska* 'foot,' Kutenai *saq'*.

CHIBCHAN-PAEZAN [167] SHIN. Andaqui *sa-sagua-na* 'tibia,' Chibcha *tsa-sagua-ne* 'kneecap.'

375 LIVE

ALMOSAN-KERESIOUAN [118] LIVE. Mohawk *ha*, Yuchi *ha*.

PENUTIAN [119] HOUSE. Chitimacha *hana*, Yuki *han*.

376 LIVE

HOKAN [96] LIVE. Subtiaba *ja*, Seri *-i?*, Yana *jai* 'stay.'

CHIBCHAN-PAEZAN [106] HOUSE. Cayapa *ja*, Panikita *ja*, Paya *uja* 'nest.'

377 MAN

CHIBCHAN-PAEZAN [138] OLD MAN. Tarascan *tama-pu*, Warrau *idamo*, Miskito *dama* 'grandfather.'

MACRO-CARIB [38] MAN. Miranya *thimae*, Motilon *tama* 'boy.'

378 MAN

ANDEAN [70] MALE. Yanacocha *oloqo* 'husband,' Quechua *orqo* 'husband,' Araucanian *alka*, Qawashqar *arak*.

EQUATORIAL [77] MAN. Arawak *lukku*, Uro *luku*.

379 MAN

PENUTIAN [92] GRANDMOTHER. Maidu *koto*, Zuni *hotta*, Yakima *katla*.

ANDEAN [35] FATHER. Iquito *kati*, Sechura *kuč*, Itucalc *kiča*, Hivito *kotk*.

MACRO-TUCANOAN [61] MAN. Canichana *kohti* 'husband,' Gamella *katu*, Curiariai *xot* 'person.'

380 MANY

HOKAN [2] ALL. Subtiaba *bā*, Waicuri *pu*.

EQUATORIAL [79] MANY. Cofan *bu*, Piaroa *buio* 'large,' Sanamaika *pui* 'large.'

381 MANY

EQUATORIAL [78] MANY. Coche *but^a* 'large,' Kariri *pečo*, Yuracare *puče* 'surpass.'

MACRO-GE [1] ALL. Botocudo *pota*, Caraja *ibote*, Masacara *pautzöh*.

382 MEAT

ALMOSAN-KERESIOUAN [65] FAT. Proto-Siouan *šī 'fat,' Seneca *sē* 'be fat.'

MACRO-GE [78] MEAT. Botocudo *čin*, Came *tini*.

383 MEAT

ALMOSAN-KERESIOUAN [124] MEAT. Nisqualli *nq?* 'animal,' Kutenai *łak*

($i < n$).

MACRO-PANOAN [44] MEAT. Huarayo *noči*, Pilaga *niiak* 'fish,' Lengua *nohak* 'wild animal.'

384 MONKEY

EQUATORIAL [80] MONKEY. Campa *kočiro*, Uro *kusiŋo*.

MACRO-GE [79] MONKEY. Patasho *kuki*, Proto-Ge **kukəz*.

385 MOON

ALMOSAN-KERESIOUAN [126] MOON. Catawba *nunti* 'sun, moon,' Cherokee *nāto* 'sun, moon.'

MACRO-CARIB [42] MOON. Proto-Carib **nuuna*, Ocaina *nəhna*.

386 MOTHER

HOKAN [100] MOTHER. Yavapai *titi*, Achomawi *tat^{hi}*, Karok *tat*, Seri *ʔita*.

EQUATORIAL [51] GRANDMOTHER. Cayuvava *tætæ*, Bare *čeče*, Chacura *čiči*, Uro *ačiči*.

387 MOUNTAIN

HOKAN [101] MOUNTAIN. Comecrudo *waj*, Cocopa *wi* 'mountain, rock.'

MACRO-TUCANOAN [65] MOUNTAIN. Kaliana *ũaikũ*, Maku *wike*.

388 MOUTH

HOKAN [102] MOUTH. Karok *-kara* 'into the mouth,' Tonkawa *kala*.

ANDEAN [75] MOUTH. Leco *kollo*, Sechura *bo-korua*.

MACRO-TUCANOAN [67] MOUTH. Mobima *kuana*, Huari *kan* 'beak.'

389 NECK

ANDEAN [77] NECK. Lupaca *aru* 'voice, speech,' Culli *uro*.

EQUATORIAL [115] THROAT. Toyeri *ari*, Proto-Tupi **ajur*.

390 NECK

ALMOSAN-KERESIOUAN [137] NECK. Proto-Central Algonquian **hkweeka-ni*, Kutenai *-ōkak*.

CHIBCHAN-PAEZAN [129] NECK. Andaqui *san-guaka*, Chibcha *guikin*.

391 NECK

HOKAN [105] NECK. Chumash *paktamus*, Seri *k-iphk* 'hang on neck,' Tlappanec *apuh*.

CHIBCHAN-PAEZAN [130] NECK. Itonama *pakas*- 'front of . . . ,' Gayon *apaxiguo*.

392 NEW

PENUTIAN [168] NEW. Monterey *iiti*, Huastec *it*, Maidu *di* 'young.'

CENTRAL AMERIND [63] RIPE. Proto-Oto-Manguean **(n)(?)te(n)* 'ripe, cooked,' San Juan *tʰi* 'be cooked,' Kiowa *ta* 'be ripe, cooked.'

393 NOSE

CHIBCHAN-PAEZAN [133] NOSE. Cuna *asu*, Paez *asa* 'stink,' Warrau *aha* 'smell.'

ANDEAN [106] SMELL. Itucalc *asi*, Patagon *os*, Quechua *asia* 'stink.'

394 NOW

CHIBCHAN-PAEZAN [135] NOW. Terraba *eri* 'now, today,' Cacaopera *ira* 'today.'

MACRO-CARIB [46] NOW. Galibi *ereme*, Yameo *errama*.

MACRO-GE [112] TODAY. Tibagi *ori*, Coropo *hora*, Fulnio *ʔe* 'now.'

395 ONE

ALMOSAN-KERESIOUAN [143] ONE. Pawnee *asku*, Seneca *ska*, Acoma *ʔiska*.

ANDEAN [81] ONE. Lamisto *sok*, Jebero *saka* 'only.'

396 OPEN

ALMOSAN-KERESIOUAN [145] OPEN. Kutenai *uk'un*, Yurok *kæn*, Arapaho *kāne*.

PENUTIAN [173] OPEN. Wappo *k'ine*, Lower Umpqua *qunh*.

397 OPEN

PENUTIAN [174] OPEN. Atakapa *pai*, Nisenan *pe*.

CHIBCHAN-PAEZAN [143] OPEN. Atacama *pai* 'uncover,' Catio *ebaja*.

398 PEOPLE

ALMOSAN-KERESIOUAN [151] PERSON. Proto-Keresan **hanu* 'people,' Caddo *hajānuʔ*.

PENUTIAN [176] PEOPLE. Wappo *oni*, Tunica *ʔoni*.

399 RIVER

CHIBCHAN-PAEZAN [151] RIVER. Cuna *ti-wala*, Guajiquero *wara*, Miskito

awala.

MACRO-GE [91] RIVER. Otuke *ouru*, Caraja *bero*, Palmas *war* 'swamp.'

400 RUN

HOKAN [122] RUN. Yuma *kono*, Coahuilteco *kuino*, Washo *igelu*.

CHIBCHAN-PAEZAN [155] RUN. Dobocubi *kuri* 'flee,' Sumu *kiri*.

ANDEAN [68] LEG. Qawashqar *kal* 'leg,' Aymara *čara* 'leg,' Tsoneka *kel* 'foot.'

MACRO-CARIB [56] RUN. Roucouyenne *ta-kane*, Witoto *ekain-ite* 'walk fast.'

401 RUN

PENUTIAN [198] RUN. Plains Miwok *taige*, Nisenan *dok*, Tunica *taka* 'chase.'

ANDEAN [95] RUN. Aymara *t'ikta*, Jebero *tək'k'a*.

402 SALIVA

ALMOSAN-KERESIOUAN [161] SALIVA. Nootka *tāx^w* 'to spit,' Quileute *tux-al* 'to spit,' Osage *tatoxe*.

PENUTIAN [200] SALIVA. Marin Miwok *tuka* 'to spit,' Proto-Muskogean **tux^w*, Sayula *t^sux*, Yakonan *t^sak*.

403 SAY

PENUTIAN [203] SAY. Yokuts *wili*, Natchez *wel* 'speak,' Tunica *wali* 'call,' Chitimacha *wan* 'speech,' Totonac *wan*.

MACRO-TUCANOAN [90] TELL. Iranshe *wala* 'talk,' Tucano *uere*.

MACRO-CARIB [60] SPEAK. Carib *ura*, Witoto *u^rurii*.

404 SAY

PENUTIAN [202] SAY. Wappo *hai*, *ha*, Tsimshian *he*, Natchez *hi*.

PENUTIAN [204] SAY. Maidu *ʔa*, Koasati *a*.

CHIBCHAN-PAEZAN [157] SAY. Tarascan *aj* 'tell,' Chilanga *aj* (-on), Cuitlatec *e*.

405 SAY

PENUTIAN [201] SAY. Bodega Miwok *ʔona*, Coos *na*, Alabama *ni*.

ANDEAN [96] SAY. Zaparo *ana*, Sabela *ā*, Quechua *ní*.

406 SEE

CENTRAL AMERIND [67] SEE. Proto-Uto-Aztecan **mai*, Taos *mũ*.

CHIBCHAN-PAEZAN [160] SEE. Tarascan *mi*, *miu*, Yanomama *mi*, Cayapa *mi*, Atacama *mini*.

407 SEW

PENUTIAN [208] SEW. Zuni *pik(-ta)*, Natchez *bōx*.

HOKAN [159] WEAVE. Karok *vik*, Yana *waga-* 'twine a basket.'

408 SHADOW

CHIBCHAN-PAEZAN [166] SHADOW. Itonama *manis-* 'be in the shadow,' Atacama *minas*.

MACRO-CARIB [57] SHADOW. Witoto *manaide*, Trio *amali-li*.

409 SHOULDER

CHIBCHAN-PAEZAN [170] SHOULDER. Itonama *paču-kaka*, Tarascan *pešo*, Colorado *behči* 'back.'

MACRO-CARIB [10] CHEST. Yagua *upeko* 'neck,' Faii *mex-pikua*, Ocaina *bagoo?ja*.

410 SIT

ALMOSAN-KERESIOUAN [171] SIT. Yuchi *k'u* 'dwell,' Proto-Siouan **amā-* *ki* 'sit on ground' (**amā* = 'ground'), Arikara *ku*, Kutenai *qa* 'be.'

PENUTIAN [217] SIT. Klamath *či*, *ča*, Yuki *šai* 'live,' Chinook *š-* 'be,' Cakchiquel *ša* 'be.'

HOKAN [128] SIT. Seri *-ix-*, Subtiaba *-iřigu?*

ANDEAN [14] BE. Iquito *iikii*, Ona *ke*, Quechua *ka*.

411 SKIN

PENUTIAN [13] BARK. Yuki *ol-šo* (*ol* = 'tree'), Chitimacha *su?u* 'bark, skin,' Totonac *šuwa?*

HOKAN [130] SKIN. Tonkawa *-som-*, Tequistlatec *l-iřmi*.

MACRO-TUCANOAN [81] SKIN. Maku *čimo*, Ticuna *čame*.

412 SKIN

CHIBCHAN-PAEZAN [175] SKIN. Atacama *k'ati*, Cuitlatec *kuti*, Move *ku-ata*, Cacaopera *k'uta*, Paez *kati*, Timucua *ukwata* 'body, flesh,' Yanomami *kasi* 'lip.'

MACRO-GE [100] SKIN. Botocudo *kat*, Mashubi *či-kati* 'lip.'

413 SKIN

ANDEAN [102] SKIN. Mayna *-pa*, Yamana *api*, Jebero *pi* 'body.'

MACRO-GE [6] BARK. Coroado *pe*, Guato *i-fai*.

414 SKY

PENUTIAN [220] SKY. Tunica *?aparu* 'heaven,' Tzotzil *-bail* 'above,' Huastec *ebal* 'above.'

HOKAN [155] UP. Yahi *-bal-* 'up from the ground,' Karok *?ipan* 'top,' Comecrudo *apel* 'above, heaven.'

415 SLEEP

CENTRAL AMERIND [51] LIE DOWN. Proto-Uto-Aztecan **ka* 'sit down,' Taos *k'uo*.

ANDEAN [103] SLEEP. Yamana *aka*, Aymara *iki*.

416 SMALL

HOKAN [133] SMALL. Shasta *at'uk*, Jicaque *t^sikwaj*, Subtiaba *taxū*.

MACRO-PANOAN [56] SMALL. Culino *tukuča* 'short,' Suhin *tika*, Towothli *taake* 'short.'

417 SMOKE

ALMOSAN-KERESIOUAN [176] SMOKE. Proto-Keresan **t^s'ekə* 'to smoke,' Abenaki *ahsok^w* 'cloud,' Upper Chehalis *šq* 'cloud.'

HOKAN [134] SMOKE. North Yana *t^s'ək'au*, Southeast Pomo *t^saxa*, Esselen *čaxa*, Subtiaba *na-sīxa* 'to smoke.'

418 STAND

ALMOSAN-KERESIOUAN [180] STAND. Mohawk *ta?* 'stand up,' Yuchi *ta*.

PENUTIAN [233] STAND UP. Maidu *?oto*, Tunica *to*.

419 STEAL

CHIBCHAN-PAEZAN [183] STEAL. Catio *mera*, Chimu *omor* 'thief.'

MACRO-CARIB [62] STEAL. Muinane *meri-de*, Ocaina *muuro*, Yabarana *mərə* 'take!'

420 STRING

HOKAN [140] STRING. Subtiaba *-ūñulū*, Tequistlatec *-ajnuł* 'fiber.'

MACRO-TUCANOAN [89] STRING. Proto-Nambikwara **nu*, Masaka *nai*.

421 SUN

HOKAN [141] SUN. Achomawi *t^sul*, Shasta *t^suwar*.

MACRO-GE [28] DAY. Chiquito *t^suu* 'day, sun,' Caraja *tiuū* 'day, sun,' Guato *ma-čuo*.

422 SUN

CHIBCHAN-PAEZAN [187] SUN. Miskito *kati* 'moon,' Tarascan *kut^ssi* 'moon,' Guajiquero *kaší*, Eten *kæss*.

EQUATORIAL [109] SUN. Guahibo *ikatia*, Goajiro *kači* 'moon,' Cuica *kuči* 'day,' Digüt *gati* 'moon.'

423 TALK

PENUTIAN [247] TELL. Tsimshian *mał*, Takelma *malgⁱ*.

CHIBCHAN-PAEZAN [192] TALK. Intibucat *malmal*, Cuitlatec *oxmele* 'chat.'

424 TESTICLE

PENUTIAN [249] TESTICLE. Nez Perce *tālo*, Tunica *-htolu*.

HOKAN [145] TESTICLE. Tonkawa *t^sāl*, San Antonio *solo*.

425 THIS

G15 [Andean, Equatorial] HE. Quechua *-n* 'his,' Zaparo *no*, Jebero *nana* 'that,' Amuesha *ña*, Chiriana *ne*, Chipaya *ni*, Huambisa *nu* 'that.'

G23 [Chibchan-Paezan, Macro-Carib, Macro-Panoan, Macro-Ge] THIS.

Paez *ana*, Colorado *ne* 'he,' Choco *nan* 'that,' Hishcariana *en*, Chacobo *naa*, Suya *ni*.

426 THORN

PENUTIAN [9] ARROW. Natchez *onoxk* 'thorn,' Maidu *nok'o*, Kalapuya *enuk*, Proto-Mayan **lah* 'nettle.'

EQUATORIAL [113] THORN. Guaranoco *onak*, Cofan *nuxa*.

427 THROW

HOKAN [149] THROW. Comecrudo *aka*, Tonkawa *kā*.

ANDEAN [114] THROW. Aymara *aha*, Zaparo *aha*.

428 TOOTH

HOKAN [152] TOOTH. Atsugewi *iłt^saw*, Chimariko *h-ut^su*, Shasta *it^sau*, Yahi *ki-t^sau-na*.

CENTRAL AMERIND [83] TOOTH. Proto-Uto-Aztecan **tam*, Proto-Oto-Manguean **(n)te(n)* 'chew.'

EQUATORIAL [117] TOOTH. Yaru *iti(-či)*, Achagua *esi*, Uro *atse*, Callahuaya *iti* 'bite.'

MACRO-GE [113] TOOTH. Otuke *itio*, Chiquito *t^soo*, Proto-Ge **t^swa*, Macuni *tsioi*, Caraja *tju*.

429 TOOTH

ALMOSAN-KERESIOUAN [194] TOOTH. Kutenai *unān*, Cheyenne *-onen* 'toothed.'

CHIBCHAN-PAEZAN [202] TOOTH. Cacaopera *nini*, Atacama *enne*, Ulua *ana*.

430 TREE

PENUTIAN [235] STICK. Lake Miwok *tumaj* 'stick, wood,' Atakapa *t^som*, Quiché *čamij* 'staff.'

MACRO-TUCANOAN [95] TREE. Tiquie *temba* 'firewood,' Kaliana *taba*.

EQUATORIAL [47] FOREST. Toyeri *nemba*, Saliba *rampo*, Zamuco *ērāp*.

MACRO-CARIB [71] TREE. Andoke *doapa* 'forest,' Pebá *tapasej*.

431 TREE

PENUTIAN [261] TREE. Hitchiti *abi*, Natchez *pa* 'plant,' Huchnom *ipo*.

EQUATORIAL [118] TREE. Culino *awa*, Yavitero *awa-bo* 'forest,' Uro *wa*.

432 TWO

HOKAN [153] TWO. Achomawi *haq*, Chimariko *xoku*, Karok *?axak*, San Antonio *kakšu*, Tequistlatec *kook^h*, Tonkawa *haikia*, Cocopa *xawak*.

ANDEAN [82] OTHER. Yamana *hakū*, Tehuelche *kajuko*, Araucanian *ka* 'other.'

433 TWO

CENTRAL AMERIND [86] TWO. Proto-Oto-Manguean **(h)wi(n)* 'two, twins,' Proto-Uto-Aztecan **wo/wa*, Taos *wi-*.

ANDEAN [83] OTHER. Quechua *wah*, Auca *wa*.

434 URINE

ALMOSAN-KERESIOUAN [200] URINE. Proto-Central Algonquian **šeki*, Musquam *səχ^wa* 'urinate.'

EQUATORIAL [120] URINE. Kamaru *t^sako* 'urinate,' Shuara *šiki*, Piaroa *t^saxkuelia*.

435 URINE

PENUTIAN [264] URINE. Chinook *wiuš*, Yuki *aš* 'urinate,' Yucatec *iš*.

CHIBCHAN-PAEZAN [208] URINE. Kagaba *wisi*, Cuitlatec *wiŋi* 'urinate,' Manare *jisa*, Borunca *wiš(-ku)*, Ulua *usu*.

MACRO-PANOAN [61] URINE. Lengua *jis(-weji)* 'urinate,' Lule *ys* 'urinate,' Suhin *juł*, Churupi *yius* 'urinate,' Proto-Panoan **isō*.

436 VAGINA

PENUTIAN [265] VAGINA. Chitimacha *neʔēs*, Quiché *nus*.

MACRO-TUCANOAN [97] VULVA. Maku *ts-eʔne*, Yahuna *jaʔna*.

MACRO-CARIB [74] VAGINA. Witoto *iani*, Proto-Carib **eni* 'vase.'

437 VAGINA

ALMOSAN-KERESIOUAN VAGINA. Nitinat *ʔaʔotʰ*, Blackfoot *-ats-*, Arapaho *hehéč*, Wichita *ʔāhas* 'urine,' Seneca *-heohsa-* 'urine.'

PENUTIAN VAGINA. Zuni *ʔašo*, Koasati *hasiʔ*, Quiché *(a)šiš*.

HOKAN VAGINA. Seri *ʔasit*.

CHIBCHAN-PAEZAN [209] VAGINA. Cuna *sisi*, Matagalpa *su*, Lenca *shusho*, Chibcha *sihi*, Binticua *sisi* 'vulva,' Cayapa *su*, Dobocubi *ču*.

ANDEAN VAGINA. Patagon *isse*, Kahuapana *sišila*.

438 WASH

PENUTIAN [269] WASH. Yuki *hukol*, Southern Sierra Miwok *heka*.

CHIBCHAN-PAEZAN [11] BATHE. Cuna *oka*, Paya *ok(-ka)*, Bribri *uk*.

439 WATER

ALMOSAN-KERESIOUAN [109] LAKE. Proto-Siouan **re*, Seneca *(njota)-re*.

CHIBCHAN-PAEZAN [212] WATER. Bintucua *ria* 'liquid,' Atacama *(pu-)ri*, Tegria *ria*, Move *-ri* 'liquid,' Rama *ari* 'liquid,' Tarascan *p^{hi}-ri* 'a small amount of liquid.'

440 WATER

PENUTIAN [272] WATER. Tunica *wiši*, Wappo *isε* 'dig for water.'

HOKAN [44] DRINK. Achomawi *iss*, Karok *ʔis*, Seri *isi*, North Yana *sii*, Yurumangui *si*.

MACRO-GE [94] SALIVA. Kadurukre *išu* 'saliva,' Kamakan *jašo*.

441 WATER

CHIBCHAN-PAEZAN [51] DRINK. Colorado *kuči*, Cuaiquer *kuase*, Itonama *kasi(-ʔna)*, Timucua *okut*.

ANDEAN [121] WATER. Cholona *kot*, Hivito *kači*, Sechura *xoto*.

EQUATORIAL [64] LAKE. Kitemoka *su-huaiše*, Itene *huče* 'swamp,' Uro *koasi*.

MACRO-GE [33] DRINK. Umotina *i-kotu*, Fulnio *i-kote*.

442 WE-2

G10 [Chibchan-Paezan, Macro-Tucanoan, Macro-Ge] THOU. Allentiac *ka*, Xinca *ka-* 'thy,' Tarascan *-ke(-ni)* 'first-person singular acts on second-

person singular,' Kaliana *ka(-be)*, Auake *kai(-kiete)*, Erikbatsa *ikia*, Bororo *aki*, Coroado *ga*.

G19 [Almosan-Keresiouan, Penutian, Hokan, Central Amerind, Macro-Carib, Andean] WE-2 INC. Proto-Algic **k-* 'thou,' Wyandot *kj*, Yokuts *ma-k'*, Maratino *ko* 'we inc.,' San Antonio *kak* 'we,' South Pame *kakh* 'we inc.,' Taos *ki-* 'our,' Proto-Carib **ki-*, Mayna *-ke* 'let us,' Cholona *ki* 'our.'

G28 [Macro-Carib] TWO. Witoto *-ko* (dual), Surinam *oko*, Hishcariana *asa-ko*.

443 WET

PENUTIAN [273] WET. Tsimshian *p'ak^hp'ak^h* 'wash,' Kekchi *puč* 'wash,' Huastec *pakul* 'wash,' Atakapa *pat^s* 'wash,' Natchez *pat^sak*.

CHIBCHAN-PAEZAN [214] WET. Terraba *puk*, Tucura *bek(-eai)* 'to water,' Betoï *ofaku* 'rain.'

444 WHITE

CHIBCHAN-PAEZAN [215] WHITE. Tucura *torro*, Atacama *tara*.

MACRO-GE [120] WHITE. Caraja *dora*, Chiquito *turasi*.

445 WIND (n.)

PENUTIAN [276] WIND. Chinook *ikxala*, Yakima *xuli*, Takelma *kwałt*.

ANDEAN [123] WIND. Iquito *akira*, Qawashqar *kel*.

446 WISH

ANDEAN [125] WISH. Leco *era*, Jebero ?*ina* (desiderative), Quechua *-naa* (desiderative), Yamana *jana*.

G83 [Macro-Panoan] DESIDERATIVE. Chacobo *-no*, Lule *-no*.

447 WOMAN

HOKAN [161] WIFE. Achomawi *ta*, Esselen *ta*, East Pomo *da*, Yuruman-gui *ita(-asa)*.

MACRO-GE [123] WOMAN. Fulnio *de*, Krenje *jiti*, Capoxo *ti*.

448 WORK

CHIBCHAN-PAEZAN [224] WORK. Bintucua *nina* 'activity,' Guaymi *noaine* 'do,' Timucua *inoni*, Rama *uni* 'make.'

EQUATORIAL [76] MAKE. Dzubucua *niño*, Kandoshi *ina*, Aguaruna *na-*.

ADDITIONAL SUPPORT FOR AMERIND ETYMOLOGIES

Some of the etymologies offered in support of one of the 11 Amerind subgroups in Chapter 3 of *Language in the Americas* appear to belong instead to one of the Amerind etymologies in Chapter 4. The following is a list of such possibilities.

- A2 = MT66
- A7 = P214 = CP219 = MT46
- A8 = AK7
- A9 = CP34 = MC24 = MG115
- A11 = P58
- A14 = MP46
- A16 = AK6 = CP4
- A20 = AK77 = H157 = MP59
- A24 = A108 = CA45 = E42
- A27 = AK79 = MG117
- A29 = E10
- A30 = AK43
- A35 = MP58
- A37 = CP18
- A39 = A85 = E15
- A42 = AK26 = H17
- A43 = MT13
- A45 = AK206
- A46 = CA76 = MC63 = MG58
- A49 = MP20 = MG70
- A54 = A251 [CP] = AK108 = P285
- A59 = AK20 = H24
- A61 = MP57
- A71 = AN44
- A73 = AK28
- A74 = A80 = CP83 = MP30
- A78 = AK53 = CA25
- A79 = AK175 = AN79 = CP133
- A85 = E15
- A86 = CA90
- A87 = AK185 = CP152 = MG118
- A89 = CP211 = AN97 = E125
- A92 = H45 = CP76

A94 = CP49
A104 = MG38
A105 = P68
A109 = CA35
A113 = CP74
A114 = H60
A119 = A189
A120 = MC66
A125 = E129 = MT106 = MG41
A136 = E54
A141 = P102 = CP184
A146 = AK57
A147 = CP1
A148 = E1
A149 = AK31 = AK153 = P110 = AN37
A155 = AK54 = P14 = CA27 = MG69
A157 = MT16
A161 = AN65
A165 = AK113 = CP167
A168 = E69
A169 = CP179
A178 = H54
A180 = AK121 = P162
A184 = E40
A185 = H18
A188 = AN109 = E81
A190 = AK130 = MP8
A191 = E36
A196 = E114
A200 = P17 = AN27
A217 = CA74
A219 = P246
A222 = AK162 = P151
A227 = E101
A228 = CP30 = CP131 = MC59
A232 = P216
A241 = E131
A245 = MG103
A251 [P] = P156
A252 = AN33
A253 = H47

A257 = CP201

A263 = E121

A272 = P283 = H164

A273 = CA41 = CP222

A275 = CA84

A279 = AK209

A281 = AK44 = P88 = H29

CONSOLIDATION WITHIN AMERIND SUBGROUPS

In at least six instances different etymologies within an Amerind subgroup should be combined as a single etymology: P32 and P78; P55 and P129; P69 and P124; H19 and H26; AN16 and AN48; and MP26 and MP27.

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Amerind T'A?NA 'Child, Sibling'

It has recently been claimed (proclaimed may be more accurate) that the comparative method in linguistics is inherently limited to some arbitrary date variously placed at 5,000 to 10,000 years before the present.* *After* this magical date we may delineate families (i.e. valid linguistic taxa) and even reconstruct large and intricate portions of the various proto-languages, often involving subtle and complex sound correspondences among the constituent families or languages. *Before* this mystical date we suddenly and abruptly encounter a black hole, as it were, devoid of any useful linguistic information whatever. We are thus doomed, according to this view, to be forever incapable of investigating linguistic relationships deeper in the past than 10,000 years.

According to Terrence Kaufman (1990: 23), "a temporal ceiling of 7,000 to 8,000 years is inherent in the methods of comparative linguistic reconstruction. We can recover genetic relationships that are that old, but probably no earlier than that. The methods possibly will be expanded, but for the moment we have to operate within that limit in drawing inferences." Kaufman then argues that, since the Americas are *known* to have been inhabited longer than the alleged limits of the comparative method, "the proof of a common origin for the indigenous languages of this hemisphere is not accessible to the comparative method as we know it" (p. 26). In a similar vein, Johanna Nichols

* I would like to thank John Bengtson, William Croft, William Jacobsen, and Joseph Greenberg for criticism of an earlier version of this chapter.

(1990: 477) defines a *stock* as "the oldest grouping reachable by application of the standard comparative method. . . . Most of these are in the vicinity of 6,000 years old since their own internal breakups." She also claims that "genetic unity for 'Amerind' is incompatible with the chronology demanded by the linguistic facts" (p. 475), though one must hasten to add that what Nichols considers "linguistic facts" is not a catalogue of cognate words but "typological diversity."

In this chapter I will try to show, by examining the interaction of a single Amerind lexical item with a number of morphological processes and affixes, that Amerind, as set forth by Joseph Greenberg (1987), is a well-defined linguistic taxon, with all eleven subgroups connected by the lexical item in question. Furthermore, the constellation of forms that will be shown to connect all branches of Amerind does not exist, to the best of my knowledge, in any other linguistic taxon—at any level—in the world. It follows that if Amerind is a well-defined genetic unit, as I will argue, then the supposed time limits of the comparative method should perhaps be reconsidered.

THE ROOT TANA 'CHILD, SIBLING'

One of the lexical items posited by Greenberg in support of the Amerind family was a word whose general meaning is 'child, sibling,' and whose general phonetic shape is *tana* or the like (Greenberg 1987: 225). Although Greenberg cited only a few forms—all from North America—the root in question is in fact widespread throughout both North and South America and is found in every branch of the Amerind family. As such, it represents a diagnostic trait of Amerind comparable in value to the Amerind pronominal pattern *na* 'I/ma 'thou,' whose importance Greenberg and others have stressed.

As a first approximation, one might reconstruct the root in question as **t'ana* 'child, sibling' for Proto-Amerind. North American reflexes of this root include forms such as Nootka *t'an'a* 'child.' The Haida form reported by Sapir (1923b: 149), *t'a'na* 'child,' is in all likelihood a borrowing of this Nootka word. Sapir himself had documented the borrowing of a Haida kinship term by the Tsimshian through mixed marriages (Sapir 1921). In the present case we seem to have borrowing going in the opposite direction, from the Amerind Nootka to the Na-Dene Haida. The biological consequences of these mixed marriages between peoples of quite distinct ethnic groups, Amerind and Na-Dene, are reported in Cavalli-Sforza et al. (1994). Other North American reflexes of the root **t'ana* 'child, sibling' include Kwakwaka *t'ana* 'blood relative,' Yurok *t^sān-ūk-s* 'child,' Tsimshian *ʔuk-taēn*¹ 'grandchild,' Cayuse

¹ Throughout this paper I have added morpheme boundaries at points where I believe they are *historically* justified, even though there is often no longer any synchronic motivation for them in the modern languages. For example, I suspect that Tsimshian *ʔuk-taēn*

i-tsaŋu 'young,' Totonac *t'ána-t* 'grandchild,' Achomawi *-tsan* (diminutive), Washo *t'ánu* 'person,' Santa Barbara Chumash *taniw* 'little, child,' Coahuilteco *t'an-pam* 'child,' *kuan-t'an* 'grandchild,' Proto-Uto-Aztecan **tana* 'son, daughter,' Varahio *taná* 'son, daughter,' Proto-Oto-Manguean **ʔntan* 'child,' Popoloca *tʰhján* 'child, son,' Proto-Oto-Manguean **taʔn* 'sibling,' Mixtec *tāʔā* 'sibling,' and Miskito *tuk-tan* 'child, boy.' South American examples of this root include Shiriana *tasém-taiina* 'child,' Urubu-Kaapor *taʔin* 'child,' Wapishana *dan* 'child, son,' and Atoroi *dan* 'baby, son.' (The genetic classification of all languages cited is given in the final section of this chapter.)

All of the forms that I believe (with varying degrees of conviction) to be cognate with those just enumerated are given at the end of this chapter. Those cited above represent what might be considered the original form and meaning. There are quite naturally many items that diverge, often by a single step, from either the original meaning or the original phonetic shape. Let us turn now to these slightly modified forms, first with regard to meaning, and then with regard to form. If we begin with the meaning 'child, sibling,' the simplest, and most expected, shifts would be to 'son, daughter' for the first term, and to 'brother, sister' for the second. In fact, within the context of Algic, Sapir (1923a: 41) noted precisely these semantic developments for the lexical item discussed here: "Proto-Algonquian **-tan-* must be presumed to have originally meant 'child' . . . and to have become specialized in its significance either to 'son' (Wiyot) or 'daughter' (Algonkin proper), while in Yurok its close relative *-ta-tʰs* ['child'] preserved a more primary genetic significance."

Within the larger Amerind context, Greenberg also noticed the connection between the basic meaning of 'child' and that of 'daughter, sister,' but he overlooked a parallel connection with masculine forms such as 'son, brother,' probably because the latter forms tend to be phonologically more deviant, as we shall see below. Let us consider first a sample of some of the related feminine forms. For Almosan one may point to Proto-Algonquian **ne-tān(-ehsa)*

'grandchild,' Chol *čok-tuiun* 'boy' (cf. Chol *aluš-čok* 'girl'), Miskito *tuk-tan* 'child,' Tibagi *tog-tan* 'girl,' and Chapacura *a-čoke-tunia* 'girl' are all cognate in both their parts, representing an Amerind compound of two words for child, as discussed below. The fact remains, however, that as far as I can tell there is no *synchronic* motivation for a bimorphemic analysis of the stem in either Tsimshian or Miskito, nor perhaps is there in the South American languages. It is only in the context of the broad analysis proposed here that these apparently monomorphemic stems can be given their proper etymological explanation. The morpheme boundaries proposed are thus a part of the overall hypothesis (and I am likely to be wrong about some of them), but they are *not* an attempt to deceive the reader into thinking that each boundary is still synchronically motivated, an unrealistic expectation for a family older than 12,000 years. Similarly, most of the hypothesized proto-forms given in parentheses (e.g. < **tenten*) are intended merely to represent *my* hypothesis, usually fairly transparent, of an earlier form of the word in question.

'my daughter,' **ne-tān-kwa* 'my sister-in-law,' Kutenai *ga'-t^{sw}in* 'daughter,' *tsu* 'sister,' Coeur d'Alene *tune* 'niece,' and Pentlatch *tan* 'mother.' Examples from Keresiouan include Proto-Siouan **i-thā-ki* 'man's sister (older or younger),' **i-thā-ka* 'woman's younger sister,' **thū-wī* 'paternal aunt,' Yuchi *t^sone* 'daughter,' Caddo *tan-arha* 'wife,' Arikara *i-tahni* 'his sister,' Mohawk *-a-thū-wisō* 'woman,' and Keres *t'aona* 'sister.' In Penutian we find Takelma *t'a-wā* 'younger sister,' North Sahaptin *kw-tən* 'daughter of a female,' Wintun *o-tun-* 'older sister,' *to-q-* 'sister-in-law,' Saclan *tune* 'daughter,' Central Sierra Miwok *tūne-* 'daughter,' Ohlone *tana-n* 'older sister,' Atakapa *ten-sa* 'niece,' Tunica *htóna-yi* 'wife,' Huastec *t^sanū-b* 'aunt,' Ixil *i-t^san* 'aunt,' and Pocomam *iš-tan* 'girl.' Examples from Hokan are Shasta *a-ču-gwi* 'younger sister, younger female cousin' (< **a-tun-kwi*), Achomawi *a-tā-wi* 'daughter,' Washo *wi-t^su-k* 'younger sister' (< **wi-t'un-ki*), Southeast Pomo *wi-m-t'a-q* 'younger sister,' East Pomo *tuts* 'mother's older sister' (< **tuntun*), Esselen *tano-č* 'woman,' Salinan *a-ton* 'younger sister,' Coahuilteco *ya-t'ān* 'sister,' and Yurumangui *tintin* 'woman.' Feminine forms from Central Amerind include Taos *t'út'ina* 'older sister' (< **t'unt'una*), *si-tona* 'wife,' *kle-tuna* 'woman,' Proto-Central Otomi **t^sū* 'female,' Mazatec *č^hū* 'woman,' *ču-kwhā* 'aunt,' Proto-Oto-Manguean **ntaHn* 'mother,' and Mixtec *tá?nū i?šá* 'younger sister.' For the Chibchan branch of Amerind, probable examples include Xinka *u-tan* 'mother,' Lenca *tuntu-rusko* 'younger sister,' Sumu *i-tanni* 'mother,' Cuna *tuttu* 'woman' (< **tuntun*), Guamaca *a-tena-šina* 'old woman,' and Motilon *diani* 'wife.' In the Paezan branch there is Citara *tana* 'mother,' Cayapa *t^suh-ki* 'sister' (< **tun-ki*), Colorado *sona-* 'woman,' Eten *čan-ka* 'sister,' and Chimu *čun* 'sister' (< **tun-ki*). Andean examples include Ona *thaun* 'sister' and Tsoneka *ke-tun* 'sister.' In Macro-Tucanoan, feminine forms are well attested: Kaliana *tone* 'mother-in-law,' Tiquie *ton* 'daughter,' Papury *toŋ* 'daughter,' *tein* 'wife,' Ubde-Nehern *tětón* 'niece,' Parawa *iš-tano* 'woman,' Canichana *eu-tana* 'mother,' Masaca *tani-mai* 'sister,' Tag-nani *tana-nde* 'mother,' Mamainde-Tarunde *denō* 'woman,' Coreguaje *čīio* 'daughter,' *a?-čo* 'elder sister,' and *čo?-jeo* 'younger sister.' Feminine forms also abound in Equatorial languages: Mococho *nak-tun* 'woman,' Esmeralda *tin* 'woman,' *tini-usa* 'daughter,' Guamo *tua* 'daughter,' Paumari *a-thon-i* 'granddaughter,' Uru *thun* 'wife,' Chipaya *t'uana* 'woman,' Chapacura *tana-muy* 'daughter,' Abitana *tana* 'woman,' Wapishana *u-dan-rin* 'daughter,' Palicur *тино* 'woman,' Yaulapiti *tine-ru-tsu* 'girl,' Arawak *o-tu* 'daughter,' and Manao *y-tuna-lo* 'woman.' In Macro-Carib we find such feminine forms as Macusi *taŋ-sa* 'girl,' Witoto *i-taño* 'girl,' and Nonuya *om(w)ũ-tona* 'sister.' Macro-Panoan examples include Mascoy *tanni-yap* 'sister-in-law,' Mataco *čina* 'younger sister,' Towithli *tuna-ni* 'woman,' Suhin *тино-iče* 'young woman,' Mayoruna *čuču* 'older sister' (< **tuntun*), and Tacana *-tóna* 'younger sis-

ter.' Finally, we may cite feminine forms from Macro-Ge such as Oti *dondude* 'woman' (< **tuntun-ede*), Botocudo *giku-taŋ* 'sister,' *tontan* 'wife,' Macuni *a-tina-n* 'girl, daughter,' Palmas *tantā* 'female,' Coropo *ek-tan* 'mother,' Mashakali *etia-tūn* 'woman,' Patasho *a-tōn* 'mother,' Apucarana *wey-tytan* 'younger sister,' Tibagi *tog-tan* 'girl,' *tantō* 'woman,' Apinaye *i-tō-dy* 'sister,' Cayapo *torri-tuŋ* 'old woman,' *tun-juo* 'girl,' Aponegicran *i-thon-ghi* 'sister,' Caraho *a-ton-ka* 'younger sister,' *tō-i* '(older?) sister,' Krëye *-tō-ue* 'sister,' and Piokobyé *a-tōn* 'older sister,' *a-tōn-kä* 'younger sister.'

Masculine forms are no less abundant, but they offer the additional complication that some of them overlap with those of the widespread root *tata* 'father,' whose global distribution has long been recognized. Still, in most cases I believe it is possible to distinguish the two roots. Almosan preserves traces of the masculine forms in Cheyenne *tatan-* 'older brother,' Arapaho *na-tseno-ta* 'my nephew,' Yurok *t^sin* 'young man,' and possibly Kutenai *tsiya* 'younger brother' and *tat* 'older brother.' In Keresiouan there are a number of masculine forms, including Proto-Siouan **thū-kā* 'grandfather,' Biloxi *tan-do* 'woman's brother,' Quapaw *ĩ-do-ke* 'male,' Biloxi *i-to* 'male, man,' Yuchi *tane* 'brother,' *-t^sone* 'woman's son,' *go-t'e* 'man, father,' *tu-kā* 'grandfather,' Caddo *dono* 'male,' Pawnee *ti-ki* 'boy, son,' Cherokee *a-tsē* 'male of animals,' *a-tsutsu* 'boy' (< **a-tuntun*), and Mohawk *-?tsin* 'boy, male.' Probable Penutian cognates include Takelma *t'ī* 'man, male,' Siuslaw *t'āt* 'nephew,' Molale *pam-tin* 'nephew,' Cayuse *puna-taŋ* 'younger brother,' Proto-Maiduan **týn* 'younger brother,' Yaudanchi *bu-tson* 'son,' Lake Miwok *?a-tāa* 'older brother,' Central Sierra Miwok *ta-čī* 'older brother,' *a-te* 'younger brother,' San Francisco Costanoan *šen-is-muk* 'boy,' Mutsun *šin-ie-mk* 'boy,' Natchez *hi-dzina* '(man's) nephew,' Atakapa *ten-s* 'nephew,' Kakchiquel *a-čín* 'man,' Sierra Popoluca *hā-thuŋ* 'father,' and Texistepec *tene(-īap)* 'man.' In Hokan we find Achomawi *ā-tūn* 'younger brother,' Konomihu *ču-ka* 'boy,' Northeast Pomo *tono* 'brother-in-law,' Eastern Pomo *tsets* 'mother's brother' (< **tenten*), Washo *?ā-t'u* 'older brother,' Chumash (*ma-k-*)*ič-tu?n* '(my) son,' Santa Cruz Chumash *tunne-č* 'boy,' *huk-tana-hu* 'my son,' Yuma *an-t^sen* 'older brother,' Coahuilteco *t'āna-gē* 'father,' and *ku-t'an* 'uncle.' Central Amerind examples include Proto-Uto-Aztecan **tu* 'boy,' Northern Paiute *tua* 'son,' Mono *tuwa* 'son,' *t^su-ku* 'old man,' Tübatulabal *tena* 'man,' Kawaiisu *tuwaa-na* 'son,' *to-go* 'maternal grandfather,' Pipil *pil-tsin* 'boy, son,' Tewa *sēŋ* 'man, male,' Mazahua *t'i-?i* 'boy,' Otomi *?i-dā* 'woman's brother,' Cuicatec *?díúnó* 'brother,' and Zapotec *p-ta?n* 'woman's brother.' Masculine forms in the Chibchan branch include Cuitlatec *ču* 'boy,' Rama *"du-tuŋ* 'younger brother,' *i-tūŋ* 'father,' Move *nge-dan* 'brother-in-law,' and Motilon *a-te-gwa* 'nephew' (< **a-ten-kwa*). Paezan examples are *ne-tson* 'brother-in-law,' Cayapa *t^sāna* 'son,' Chimu *čaŋ* 'younger brother,' and Millcayac *tzhceng*

'son.' In Andean we have Simacu *kax-ðana* 'maternal uncle,' Araucanian *t^soñi* 'woman's son,' Tehuelche *den* 'brother,' Manekenkn *ie-tog-te* 'brother,' and Ona *tane-ngh* 'maternal uncle.' In Macro-Tucanoan there are also numerous examples: Auake *toto* 'older brother' (< **tonton*), Tiquie *ten* 'son,' Ubde-Nehern *têain* 'boy,' *ten* 'son,' *tên-do* 'maternal uncle,' Capishana *mia-tuna* 'older brother,' *totoi* 'brother-in-law' (< **tonton-i*), Tagnani *ui-tono-re* 'son,' Amaguaje *t^sin* 'boy,' *ye-t^sen-ke* 'son,' Coreguaje *čii* 'son,' *a?-či* 'elder brother,' *čo?-jei* 'younger brother,' Yupua *tsin-geē* 'boy,' and Tucano *ti-kā* 'son-in-law' (< **tin-kan*). Masculine forms are also widespread in Equatorial: Cayuvava *tete* 'uncle' (< **tenten*), Mocochi *tin-gua* 'son, boy' (< **tin-kwa*), Cofan *tzánde-y-dése* 'boy,' *tōtō* 'uncle' (< **tonton*), Yaruro *to-kwī* 'small boy' (< **ton-kwi*), Tembe *tȳ-kȳhȳr* 'older brother,' *ty-ḥuhȳr* 'younger brother,' *coai-tȳ* 'brother-in-law,' *a-tiu* 'father-in-law,' Arikem *u-taua* 'brother,' Aweti *a-tu* 'grandfather,' Uruku *toto* 'grandfather' (< **tonton*), Guahibo *ā-tō* 'elder brother,' Uru (*t*)*soñi* 'man,' Wapishana *douani* 'lad,' *i-dini-re* 'son-in-law,' *teti* 'maternal uncle' (< **tintin*), Uainuma *at-tsiu* 'uncle' (< **a?-tyu*), Custenau *a-tu* 'grandfather,' Uirina *a-tina-re* 'man,' Mehinacu *a-to* 'grandfather,' Manao *no-tany* 'my son,' Atoroi *dani-ṽinai* 'son,' *a-tidn* 'younger brother,' and Goajiro *čon* 'son,' *tan-či* 'brother-in-law' (< **tan-ki*). Macro-Carib examples include Yameo *a-tin* 'man,' Galibi *tun* 'father,' Pavishana *tane* 'my son,' *tutu* 'grandfather' (< **tuntun*), Bakairi *i-tano* 'grandfather,' Imihita *tāā-ti* 'grandfather,' and Muinane *i-to* 'paternal uncle.' In Macro-Panoan we find masculine forms such as Kaskiha *an-tū-ye* 'woman's son,' Moseten *čuñe* 'brother-in-law,' Sotsiayay *taāo-kla* 'boy,' Mayoruna *tsana* 'man,' Culino *ha-tu* 'brother,' Huarayo *toto* 'man's brother' (< **tonton*), Arasa *dodo* 'brother' (< **tonton*), and Chama *toto* 'uncle' (< **tonton*). Finally, in Macro-Ge we have examples such as Guato *čina* 'older brother,' Caraja *wa-θana* 'uncle,' Umotina *in-dondo* 'maternal son-in-law' (< **in-tonton*), Cotoxo *či-ton* 'brother,' Meniens *a-to* 'brother,' Puri *ek-ton* 'son,' *makaša-tane* 'brother,' Patasho *eke-tannay* 'brother,' Apucarana *ti* 'man,' Apinaye *i-tō* 'brother,' *tu'-ká* 'paternal uncle, son-in-law' (< **tun-ko*), *tu'-ka-ya* 'maternal grandfather,' *tu'-ka-tí* 'brother-in-law, son-in-law,' Cayapo *i-ton* 'brother,' Krēye *tana-mni* 'boy,' *tō* 'younger brother,' Caraho *tō* 'brother,' *ton-ko* 'older brother,' and Piokobyé *tōn-ko* 'older brother,' *ha-tōn* 'younger brother.'

Let us turn now to the question of form. The evidence from languages such as Nootka, Kwakwala, Keres, Takelma, Siuslaw, Yuki, Atakapa, Ixil, Pokomchi, Tzeltal, Tzotzil, Chontal, Totonac, Yana, Yahi, Southern Pomo, Washo, Coahuilteco, Mazahua, and perhaps Chipaya indicates that the initial consonant was probably a glottalized *t'*; the second consonant was *n*. (Chipaya is the only South American language I have found that appears to retain the original glottalization.) There are indications in a number

of languages that the root-initial vowel was originally followed by a glottal stop (cf. Nez Perce *pi-t'i?n* 'girl,' Chumash (*ma-k-*)*ič-tu?n* '(my) son,' Proto-Oto-Manguean **ta?n* 'sibling,' Mixtec *tá?nù i?šá* 'younger sister,' Zapotec *p-ta?n* 'woman's brother,' Proto-Oto-Manguean **si(?)n* 'youngster,' Isthmus Zapotec *ži?iñi?* 'son,' Southern Nambikwara *tyū?n* 'small,' Urubu-Kaapor *ta?in* 'child,' and Erikbatsa *tsi?n-kārar* 'small'). In many languages the original glottal stop was lost, with compensatory lengthening of the preceding vowel (e.g. Proto-Algonquian **ne-tāna* 'my daughter,' Lillooet *s-tūnā-q* 'niece,' North Sahaptin *p-t'īn-ik-s* 'girl,' Central Sierra Miwok *tūne-* 'daughter,' Achomawi *a-tūn* 'younger brother,' Coahuilteco *ya-t'ān* 'sister,' Cuicatec *?dínó* 'brother,' Rama *i-tūŋ* 'father,' Cayapa *t'āna* 'son,' Yupua *tsīn-geē* 'boy,' and Yagua *dēnu* 'male child').

The vowel situation is far less clear, with a superficial appearance of complete heterogeneity. Nevertheless, I would like to suggest that these diverse forms have all evolved from a system that consisted of three terms in Proto-Amerind: **t'i?na* 'son, brother,' **t'u?na* 'daughter, sister,' and **t'a?na* 'child, sibling.' From these terms, the working of analogy (in various directions in various languages), the addition of affixes to modulate the meaning, and both regular and sporadic sound changes have produced the multiplicity of forms enumerated in the final section of this chapter. From time to time a few linguists have noticed seemingly related forms that differ in their initial vowel and meaning, but within the context of a single language the origin of these differences has remained mysterious. Thus, for example, Berman (1986: 421) concludes that Yurok *"t'ān-* 'young' is related to *t'in* 'young man' cited above. I believe that one of these is an old changed form of the other, but I do not know which is which." If one considers only Yurok, then no explanation of these forms is possible. However, when Yurok is placed in the wider context of Amerind, the source of these related forms is a trivial consequence of the Proto-Amerind system of gender ablaut outlined in this chapter.

Greenberg pointed out the presence of an opposition between masculine *i* and feminine *u* in the Equatorial and Macro-Tucanoan branches of Amerind, but considered it an innovation restricted to these two groups (Greenberg 1987: 296–98). The evidence outlined above shows, I believe, that this alternation was already present in Proto-Amerind and involved a third term as well, sex-neutral *a*.² No presently extant Amerind language preserves all

² The same alternation is found in another Amerind word for child (Greenberg, pp. 203–4), Proto-Amerind **makV* 'child,' Nez Perce *méqe?* 'paternal uncle,' Washo *mēhu* 'boy,' Chimariko *meku* 'brother-in-law,' Southeast Pomo *i-mek* 'father,' Walapai *mik* 'boy,' Tequistlatec (*la-*)*mihkano* 'boy,' Pamigua *mekve* 'boy,' Waikina *mehino* 'boy,' Yawelmani *moki* 'wife,' *mokoi* 'maternal aunt,' Gashowu *mokheta* 'girl,' Santa Cruz Costanoan *mux-aš* 'girl,' Shiriana *moko* 'girl,' Pavishana *mu'gi* 'daughter,' Waikina *maxkē* 'child,' Ticuna *mākan* 'child.'

three grades with the original vowel and meaning, but several preserve two of the three, and even more preserve one of the three variants essentially unchanged. One of the clearest examples occurs in Tiquie, a member of the Puinave group of Macro-Tucanoan, where we find *ton* 'daughter' and *ten* 'son.' A closely related language, Nadobo, has *tata* 'child,' perhaps derived from an original **tantan*. In the Tucanoan branch of Macro-Tucanoan, Coreguaje has *čĩĩ* 'son' opposed to *čĩĩo* 'daughter,' and *aʔ-čĩ* 'elder brother' opposed to *aʔ-čõ* 'elder sister.' Elsewhere in South America, in the Arawakan branch of Equatorial, we find Atoroi *dan* 'baby' and *a-tidn* 'younger brother,' the latter form probably deriving from original **a-tin*. Another Arawakan language, Ipurina, contrasts *ni-tari* 'my brother' with *ni-taru* 'my sister,' showing that the *i/u* opposition has been grammaticized in both the Equatorial and Macro-Tucanoan branches of Amerind. In the Timote branch of Equatorial, Mococho contrasts *tin-gua* 'son, boy' with *nak-tun* 'woman.' At the southern tip of South America, in two closely related languages of the Andean family, we find Tehuelche *den* 'brother' and Tsoneka *ke-tun* 'sister.' Chimú, in the Paezan branch, almost preserves the original forms in *čuj* 'sister' contrasting with *čañ* 'younger brother.'

In North America, the Yurok language of California, a member of Almosan, contrasts *tʰān-ūk-s* 'child' with *tʰin* 'young man.' In California Penutian **tō* 'grandmother' and **téh* 'child, son' have been reconstructed for Proto-Maiduan. Elsewhere in California Penutian we find Wintun *te-* 'son, daughter' and *o-tun-* 'older sister.' In the Pomo branch of Hokan, also in California, East Pomo contrasts *tuts* 'mother's older sister' with *tsets* 'mother's brother'; the first form presumably derives from **tuntun*, the latter, from **tenten*. Siouan languages preserve the gender contrast in Proto-Siouan **yĩ-ki* 'son' and **yũ-ki* 'daughter.' Furthermore, according to Matthews, internal reconstruction points to Pre-Siouan **sĩ-ki* 'son' and **šũ-ki* 'daughter' (Matthews 1959: 273). It seems likely that these forms, in turn, derive from earlier **thin-ki* and **thun-ki*, respectively, thus exemplifying not only the gender-induced vowel alternation, but even the root under discussion in this chapter. If this is correct, then perhaps the source of Siouan aspiration lies in Amerind ejectives. Unexplained for the moment is the differential treatment of initial **thun-* in the words for 'daughter' and 'paternal aunt.' Possibly the "normal" sound change *thi* > *ši* in the word for 'son' was analogically extended to the morphologically similar word for 'daughter.' It would appear that Biloxi has preserved the vowel contrast in *as-tō-ki* 'daughter' and *as-tĩ-ki* 'boy.' In the Tanoan branch of Central Amerind we have Tewa *sēŋ* 'man, male' (< **ten*) contrasting with Taos *t'út'ina* 'older sister' (< **t'unt'una*). In Mexico, Proto-Oto-Manguan contrasted **sehn* 'male' with **suhn* 'female,' and the similarity of Proto-Central Otomi **šũ-tʰi* 'girl' with both Tewa (Tanoan) *sũn-tsi* 'intimate

friend, chum' and Pre-Siouan *šú-ki 'daughter' is striking. In Mayan, Pokomchi contrasts *ī-tʰin-* 'younger sibling' with *i-tʰan-naʔ* 'aunt,' while Kakchiquel has *a-čín* 'man' and *iš-tan* 'señorita.' On the East Coast of North America, Mohawk has *a-thū-wisā* 'woman' contrasting with *-ʔtsin* 'male, boy,' while Yuchi opposes *tane* 'brother' and *-tʰone* 'daughter.'

MORPHOLOGICAL AFFIXES AND PROCESSES

As the observant reader will have already noticed, it is not just the root *t'a?na* 'child, sibling' that connects the various forms given in the preceding section. There are, in addition to the root itself, a number of affixes and morphological processes that show up in various Amerind subgroups in conjunction with the root.

The Gender Ablaut System. The interaction of the stem with the process of gender-induced vowel alternation was discussed above. Additional examples are provided in the final section of this chapter.

The Age-Differential System. One of the primary factors leading to "incorrect vowels"—from the point of view of the gender ablaut system—was the development of a competing system, based on age, in which the *-i-* vowel was reinterpreted as meaning 'young child, regardless of sex,' and/or the vowel *-u-* was reinterpreted as 'older relative, regardless of sex.' Examples of the *-i-* vowel reinterpreted in this manner include Yurok *tʰitʰ* 'younger sibling' (< **tintin*), Kutenai *tíʔte* 'granddaughter,' Mohawk *-a-ten-oʔsā-* 'brothers and sisters, to be siblings,' Nez Perce *pi-tʰíʔn* 'girl,' Wintun *te-* 'son, daughter,' Proto-Maiduan **téh* 'child, son,' Natchez *tsitsī* 'infant,' Proto-Tzeltal-Tzotzil **?ih-tʰin* 'man's younger brother, woman's younger sibling,' Yahi *tʰinī-si* 'child, son, daughter,' Southern Pomo *tʰi-ki* 'younger sibling,' San Buenaventura Chumash *u-tinai* 'infant,' Proto-Oto-Manguen **si(?)n* 'youngster,' Pehuenche *čeče* 'grandchild' (< **tenten*), Alakaluf *se-kwai* 'grandchild,' Maku *tenu-pa* 'son, daughter,' Tiquie *tenten* 'grandchild,' Yehupde *tē* 'child,' Kamaru *te-ke* 'nephew, niece,' Marawa *tino* 'small child,' Bare *hana-tina-pe* 'child,' Arara *enru-te-po* 'small child,' and Suhin *tino-iče* 'young woman.' Examples where the *-u-* vowel has been reinterpreted as a marker of the parent's or grandparent's generation include Northeast Pomo *tono* 'brother-in-law,' Tewa *tʰūnu* 'maternal uncle,' possibly Caddo *dono* 'male,' Corobisi *tun* 'man,' Move *dun* 'father,' Kagaba *du-we* 'elder brother,' Paez *ne-tson* 'brother-in-law,' Capishana *mia-tuna* 'older brother,' Iranshe *šūna* 'father-in-law,' Yuracare *suñe* 'man,' Cofan *tōʔtō* 'uncle' (< **tonton*), Aweti *a-tu* 'grandfather,' Manaže *tutý* 'paternal uncle,' Paumeri *ā-θu* 'paternal uncle,' Caranga *čuñi-l* 'brother-in-law,' Galibi *tun* 'father,' Pavishana *tutu* 'grandfather,' Moseten *čuñe* 'brother-in-law, paternal son-in-law,' Culino *mu-tun* 'old man,' Tacana

e-du-e 'older brother,' Chama *toto* 'uncle' (< **tonton*), Botocudo *gy-june* 'brother-in-law,' Opaye *o-čobn* 'man,' and Cayapo *juno* 'father.'

Reduplication. Many of the forms show reduplication, a common process for Amerind kinship terms. I have shown elsewhere (see Chapter 10 herein) that Proto-Amerind contrasted **p'oj* 'younger brother' with a reduplicated form **p'ojp'oj* 'older brother.' A similar process can be seen with the forms discussed in this chapter, where the reduplicated form represents someone older than that represented by the non-reduplicated form. Thus, Proto-Amerind contrasted **tin* '(younger) brother, son' with **tintin* 'older brother, uncle, grandfather' (e.g. Eastern Pomo *tsets* 'mother's brother,' Nisenan *ʔi-tīti* 'cousin,' Cayuvava *tete* 'uncle,' Wapishana *teti* 'maternal uncle'), as well as **tun* '(younger) sister, daughter' with **tuntun* 'older sister, aunt, grandmother' (e.g. Wintun *tūtuh* 'mother,' Tzeltal *čuču?* 'grandmother,' Eastern Pomo *tuts* 'mother's older sister,' Esselen *tutsu* 'niece,' Taos *-t'út'ina* 'older sister,' Tarascan *tʰutʰu* 'grandmother,' Cuna *tuttu* 'woman,' Colorado *sonasona* 'woman,' Mayoruna *čuču* 'older sister'). Other reduplicated forms show the same pattern, though with a vowel different from that predicted by the gender system (e.g. Cherokee *e-dudu* 'grandfather,' Central Sierra Miwok *tete* 'older sister,' Yurumangui *tintin* 'woman,' Sumu *titin-ki* 'grandmother,' Auake *toto* 'older brother,' Ubde-Nehern *tetein* 'wife,' Capishana *totoi* 'brother-in-law,' Cofan *tōʔtō* 'uncle,' Uruku *toto* 'grandfather,' Manaže *tuty* 'paternal uncle,' Wapishana *teti* 'maternal uncle,' Pavishana *tutu* 'grandfather,' Azumara *toto* 'man,' Huarayo *toto* 'man's brother,' Puri *titiña* 'grandmother'). In some cases the reduplicated form represents a younger generation (e.g. Kutenai *tīʔte* 'granddaughter,' Tiquie *tenten* 'grandchild,' Caranga *tuto* 'grandchild'). This may be the result of a reciprocal system of kinship terminology in which there is a single term for both 'grandchild' and 'grandparent.'

First-Person *na-. Since kinship terms are necessarily preceded by a pronominal suffix in many Amerind languages (and probably in Proto-Amerind as well), it is not surprising that we often find the ubiquitous first-person **na*- 'my' preceding the root in question. Examples include Proto-Algonquian **ne-tāna* 'my daughter,' **ne-tān-kwa* 'my sister-in-law,' Nez Perce *ʔin-tʰi-kʷ-wn* 'my wife's brother,' Kiowa *no-tʃ:* 'my brother,' Taos *añ-t'út'ina* 'my older sister,' Cahuilla *ne-suṇa-mah* 'my daughter,' Paez *ne-tson* 'my brother-in-law,' Manao *no-tany* 'my son,' Yavitero *nu-tani-mi* 'my daughter,' Baniva *no-tani* 'my son,' and Ipurina *ni-tari* 'my brother.'

Diminutive *-ihsa. The Proto-Algonquian diminutive suffix **-ehsa* is in fact of Amerind origin, appearing widely in both North and South America with this and other roots. L. S. Freeland (1931: 32) called attention to its pres-

ence in both Penutian and Hokan languages: "This Penutian **-si* diminutive is characteristic, it would seem, as contrasted with its undoubtedly cognate Hokan **-tsi* (**-tsi*).²" For the root in question one may cite Proto-Algonquian **ne-tān-ehsa* 'my daughter,' Yurok *tʰān-ūk-s* 'young child,' Nootka *t'an'ē-ʔis* 'child,' Chumash *ma-k-ič-tuʔn* 'my son' (literally, "the-my-diminutive-son"), Koasati *tʰika-si* 'younger son,' *āto-si* 'infant child,' Mixtec *táʔnù iʔšá* 'younger sister' (*iʔšá* = 'child'), Esmeralda *tini-usa* 'daughter,' Macusi *taʔ-sa* 'girl,' and Suhin *tino-iče* 'young woman.' Other examples of this diminutive suffix include Cayuse *kwun-asa* 'girl,' Paez *kuen-as* 'young woman,' Cahuapana *willa-ša* 'boy, girl,' Amuesha *koy-an-ešaʔ* 'girl,' and Chama *e-gʷan-asi* 'woman.'

Diminutive **-mai*. Another diminutive suffix that is widespread within Amerind is **-mai*, exemplified in Luiseno *tuʔ-mai* 'woman's daughter's child,' Cahuilla *ne-suʔa-mah* 'my daughter,' Masaca *tani-mai* 'younger sister,' Chapicura *tana-muy* 'daughter,' Itene *tana-muy* 'girl,' and Yavitero *nu-tani-mi* 'my daughter.'

****-kwa* ' . . .in-law'.** The Proto-Algonquian suffix **-kwa* ' . . .in-law' is likely cognate with the corresponding suffix in Columbian *ti-kʷa* 'father's sister,' Flathead *tití-kʷe* 'woman's brother's daughter,' Yuki *-tʰi-hwa* 'husband's brother,' *-tʰi-hwa-pi* 'husband's sister, wife's sister,' Iowa *tá-gwa* 'son-in-law,' Northern Paiute *taʔ-ʔwa* 'man,' Shasta *a-ču-gwi* 'younger female cousin,' Jicaque *tsi-kway* 'boy, child,' Mazatec *ču-kwhā* 'aunt,' Trique *du-ʔwe* 'aunt,' Kagaba *tu-gwa* 'grandchild,' Mixtec *du-ʔwi* 'aunt,' Motilon *a-te-gwa* 'nephew,' Paez *anš-tsun-kue* 'grandchild,' Tucano *ti-kā* 'son-in-law,' Yaruro *hia-to-kwi* 'maternal grandson,' Alakaluf *se-kwai* 'grandchild,' Surinam Carib *tí-ʔwo* 'brother-in-law,' and Tacana *u-tse-kwa* 'grandchild,' as well as with other roots (e.g. Yurok *ne-kwa* 'my mother/father-in-law,' Proto-Mixtec **kuʔn-gwi* 'woman's sister,' Cahuapana *kaik-kwa* 'sister-in-law,' Krenye *pan-çwō* 'sister-in-law').

Demonstrative **i-*. The prefix *i-* found on many forms (e.g. Proto-Siouan, Pokomchi, Chontal, Ulua, Sumu, Guambiana, Manao, Witoto, Apinage, Aponegicran, Capaxo) was probably originally a demonstrative pronoun.

****ʔa-* 'Elder'.** Many of the forms show traces of a prefix whose original form and meaning appear to have been **ʔa-* 'elder.' Examples include Wintun *o-tun-če* 'older sister,' Proto-Miwok **ʔá-ta* 'older brother,' Lake Miwok *ʔa-táa* 'older brother,' Yuki *ʔā-t'át* 'man,' Kakchiquel *a-čín* 'man,' Sierra Popoluca *hā-thuŋ* 'father,' Mixe *a-ts* 'elder brother,' Shasta *ʔā-ču* 'older sister,' Achomawi *a-tūn* 'younger brother,' Washo *-ʔā-t'u* 'older brother,' Northern Paiute *a-tsi* 'maternal uncle,' Coreguaje *aʔ-čī* 'elder brother,' *aʔ-čo* 'elder sister,' Aweti *a-tu* 'grandfather,' Guahibo *ā-tō* 'elder brother,' Paumari *ā-dyu* 'older brother,' Uainuma *a-ttsiu* 'uncle,' Custenau *a-tu* 'grandfather,' Yameo *a-tín* 'man,' and

Piokobyé *ha-tōn* 'younger brother.' This prefix may also be found in Proto-Maipuran **ahšeni* 'man, person,' which could reflect an earlier **ʔa-teni*.

***-ko 'Elder'.** The suffix **-ko* also modulates the root with the meaning 'elder.' Its clearest attestation is in Macro-Ge forms such as Caraho *ton-ko* 'older brother,' Piokobyé *tōn-ko* 'older brother,' Umotina *žu-ko* 'paternal father-in-law' (< **tun-ko*), Apinaye *tu'-ká* 'paternal uncle, son-in-law,' *tu'-ka-ya* 'maternal grandfather,' *tu'-ka-tí* 'brother-in-law, son-in-law.' Outside of Macro-Ge, possible reflexes include Proto-Siouan **thũ-kā* 'grandfather,' Assiniboine *tũ-gǎ* 'maternal grandfather,' Santee *thũ-kǎ* 'maternal grandfather,' Biloxi *tú-kā* 'maternal uncle,' Tfalti *čaŋ-ko* 'man,' Zuni *tač-ču* 'father' (if this derives from **tan-ko*), Mixe *tsu-gu* 'aunt,' Northern Paiute *to-go'o* 'maternal grandfather,' Mono *t^su-ku* 'old man,' Tübatulabal *tu-gu* 'brother's wife,' Kawaiisu *to-go* 'maternal grandfather,' and Yuri *čo-ko* 'man.'

***-win 'Female'.** The similarity between Proto-Siouan **thũ-wĩ* 'paternal aunt,' Yurok *ne-ts-iwin* 'my mother-in-law,' Southeast Pomo *wi-kwi* 'sister' (< **win-kwi*), and Nez Perce *ʔin-t^si-k^h-wn* 'my wife's brother' suggests a Proto-Amerind formative **win* 'female.' Whether Tlappanec *ada-tāh-wĩ* 'child' is related to these forms is unclear.

***wis- 'Older Female'.** The comparison of Mohawk *-a-thũ-wisə* 'woman,' Proto-Tzeltal-Tzotzil **wiš-* 'older sister,' Cogui *wežu* 'older female,' Guayabero *wiši* 'female,' and Churuya *-viči* 'female' suggests that Proto-Amerind had a formative **wis-* 'older female,' preserved in Mohawk as a fossilized affix on the root this chapter discusses.

***iš- 'Female'.** This prefix is perhaps related to the preceding. Examples include Pocomam *iš-tan* 'girl,' Kakchiquel *iš-tan* 'señorita,' Yaruro *išī-to-hwĩ* 'small girl' (cf. *to-kwĩ* 'small boy'), and Parawa *iš-tano* 'woman.'

Reciprocal *-ki/-ka. In his classic study of Proto-Siouan kinship terminology G. H. Matthews noted that "there are two suffixes, **-ki* and **-ka*, which were probably productive in Proto-Siouan, but which, in the daughter languages, are nonproductive, or, in the case of **-ki* in some languages, semiproductive. Reflexes of these suffixes are now best treated as a part of the stems they follow, with the result that a stem in one language will sometimes be cognate with all but the last syllable of a stem in another language, this last syllable being a reflex of one of these Proto-Siouan suffixes" (Matthews 1959: 254-55). It seems likely that the Proto-Siouan suffix **-ki* is cognate with the Yanan suffix **-si* that Sapir noted in forms such as Yahi *t'ĩ-nĩ-si* 'child, son, daughter.' Regarding this suffix, Sapir wrote that it "is used in several . . . terms indicating relations to one of a younger generation" (Sapir 1918: 156). It would appear that Proto-Amerind had at least two reciprocal suffixes used

to denote certain kinship relationships: **-ki* and **-ka*. Possibly the diachronic source of the first affix, and perhaps of both, is the Proto-Amerind suffix *-ki* 'we-2 inclusive,' discussed by Greenberg (1987: 287-89) in detail. Examples of the **-ki* suffix include Proto-Siouan **i-thǎ-ki* 'man's sister (older or younger),' Proto-Siouan **yǐ-ki* 'son,' Proto-Siouan **yũ-ki* 'daughter,' possibly Wiyot *čr-k* 'child' (if this derives from **tin-ki*), Southern Sierra Miwok *tǎ-či?* 'older brother,' Biloxi *as-tǐ-ki* 'boy,' Yuchi *wi-ta-ki* 'young man,' Pawnee *ti-ki* 'boy, son,' Yahi *t'í'nǐ-si* 'child, son, daughter,' Southern Pomo *t'í-ki* 'younger sibling,' Mazahua *t'í-ʔi* 'boy,' Tewa *sũn-tsi* 'intimate friend, chum' (< **tun-ki*), Proto-Central Otomi **šũ-t'í* 'girl' (< **tun-ki*), Cayapa *t'suh-ki* 'sister,' Kaliaana *tai-ge* 'brother,' Amaguaje *ye-tsen-ke* 'son' (cf. *t'sin* 'boy'), Yupua *tsĩn-geẽ* 'boy,' Kamaru *te-ke* 'nephew, niece,' Goajiro *tan-či* 'brother-in-law,' Taulipang *a-t'si-ke* 'older brother,' and Aponegicran *i-thon-ghi* 'sister.'

The following are probably reflexes of the **-ka* suffix: Proto-Siouan **i-thǎ-ka* 'woman's younger sister,' San Juan Bautista *ta-ka* 'older brother,' Rumsen *tá-ka* 'older brother,' Konomihu *ču-ka* 'boy,' Binticua *ču-ka* 'grandchild,' *a-ta-ka* 'old woman,' Tegria *su-ka* 'sister,' Eten *čan-ka* 'sister,' Iquito *i-ta-ka* 'girl,' Caraho *a-ton-ka* 'younger sister,' and Piokobyé *a-tōn-kǎ* 'younger sister.'

***t'uk- 'Child'.** Several forms appear to represent the remnants of a Proto-Amerind compound **t'uk-t'a?na*, both of whose constituents originally meant 'child.' Putative examples of this compound include Tsimshian *tuk-taēn* 'grandchild,' Chontal *čox-to* 'young,' Chol *čok-tuiun* 'boy' (cf. *aluš-čok* 'girl'), Miskito *tuk-tan* 'child, boy,' Manekenkn *ie-tog-te* 'brother,' Tibagi *tog-tan* 'girl,' and Chapacura *a-čoke-tunia* 'girl.' It seems likely that Santa Cruz Chumash *huk-tana-hu* 'my son' and Yurok *t'sān-ūk-s* 'young child' (< **t'sān-hūk-s*) exhibit the same compound.

***pam 'Child'.** Both Penutian and Hokan languages show a compound consisting of **pam* 'child' and the root discussed in this chapter. In the Plateau branch of Penutian we find Molale *pam-tin* 'nephew,' Proto-Sahaptian **pām̐t* 'nephew' (woman's brother's son), North Sahaptin *pām-ta* 'nephew,' Nez Perce *pām-tin* 'nephew.' Coahuilteco, a Hokan language, appears to show the same compound in *t'an-pam* 'child,' though with a different grade of the Amerind root and with a different ordering of the constituents.

Demonstrative *mV. There is a final element that is found sporadically with the root under discussion in this chapter. In synchronic grammars it is usually described as an intercalated *-m-* that appears, somewhat mysteriously, between a possessive prefix and a kinship term. Its meaning, if any is specified, is usually vague. Moshinsky (1974: 102) reports that in Southeastern Pomo, a member of the Hokan branch of Amerind, "the *-m-* prefix occurs on the non-vocative forms of all kinship terms" (with a few exceptions) in

forms such as *?i-m-sen* 'maternal uncle,' *?i-m-t^se-x* 'paternal uncle,' *?i-m-t^sen* 'maternal grandfather,' *wi-m-t'a-q* 'younger sister.' This latter form is suspiciously similar to Washo *wi-t^s'u-k* 'younger sister,' which appears to lack the intercalated *-m-* and to involve a different grade of the Amerind root, and also resembles Yuchi *wi-ta-ki* 'young man.' It should be emphasized that the Washo form is synchronically monomorphemic, whereas in the Southeastern Pomo form the final morpheme boundary is not synchronically motivated. In both languages the reciprocal *-ki* ~ *-ka* has become fossilized on the stem, as in Siouan languages. In Washo the archaic first-person singular pronoun *wi-* has also become fossilized in the word for 'younger sister,' but in Southeastern Pomo both the first-person singular pronoun *wi-* and the intercalated *-m-* are synchronically motivated.

In the Plateau branch of Penutian we find a similar intercalated *-m-* in both Nez Perce and Northern Sahaptin. For most Nez Perce kinship terms the first-person possessed form is simply the first-person prefix followed by the root, as in *naʔ-tót* 'my father,' *?im'-tót* 'thy father.' In four of the terms, however, an intercalated *-m-* appears in the first-person term, but not in the second-person form: *?in-m'-ásqap* 'man's younger brother,' *?in-ím-qanis* 'man's younger sister,' *?in-m'-át^sip* 'woman's younger sister,' *?in-m'-ít-x* 'woman's sister's child.' In Northern Sahaptin we find the following forms: *in-m-íst* 'my son,' *in-ma-awit'aʔ* 'my brother-in-law,' *in-m-ač* 'my sister-in-law,' *in-əm-am* 'my husband,' *in-m-ašam* 'my wife.' With regard to this *-m-*, Jacobs (1931: 235) concluded that "there is some doubt concerning *m*; it may be possessive *-mi* or *inmi* vestigially prefixed before a front vowel."

In South America, a similar intercalated *-m-* appears in Itonama, a Paezan language of Bolivia, as reported in Rivet (1921: 175). Rivet noted this prefix, between first-person *š-* and the root in the following forms: *š-me-tika* 'my mother,' *š-mi-múka* 'my father,' *š-máy-yamășne* 'my father-in-law,' *š-ma-yamășne-ka* 'my mother-in-law,' *š-mi-yama* 'son-in-law,' and *š-mey-mapi-ni* 'my husband.' (First-person *š-* is perhaps cognate with the first-person suffix *-(a)š* in Sahaptin.)

It seems likely that this intercalated *-m-*, for which no meaning is usually specified, represents a fossilized article that has become part of the stem synchronically. The diachronic source of this element is in all probability the Proto-Amerind demonstrative **mV-* posited by Greenberg (1987: 283-84). Greenberg noted that the original demonstrative meaning has been eroded in many languages, appearing fossilized on nouns as a Stage III article in Guato, as the impersonal possessor in Algic, as the third-person reflexive pronoun in Uto-Aztecan, and as a body-part prefix in Salish.

AMERIND *T'A?NA 'CHILD, SIBLING'

Here I present the evidence I have found for *t'a?na 'child, sibling,' and its masculine and feminine grades, within Amerind. For expository purposes only I list Almosan, Keresiouan, Chibchan, and Paezan separately, though the first two form one branch of Amerind, and the latter two, another. Many of these forms are taken from Greenberg's unpublished Amerind notebooks (Greenberg 1981), whose data originally suggested to me the analysis presented in this chapter. Subsequently, I added many additional items as the result of my own library research. During this research I often came upon the same forms that Greenberg had included in his notebooks. Since it has recently been alleged that his notebooks are untrustworthy and filled with errors, I must take this opportunity to report that I have found the claim to be wholly unwarranted. The notebooks do faithfully reflect the linguistic literature upon which they are based. The few errors that were introduced in the various stages of the production of his book can hardly be taken to invalidate Greenberg's basic classification of Native American languages, any more than errors in his African data invalidated his African classification, or, for that matter, any more than the numerous errors in the standard etymological dictionary of Indo-European (Pokorny 1959) invalidate the Indo-European family. We are, after all, not dealing with a mathematical proof that can be invalidated by a single false step. We are dealing rather with the *preponderance of evidence*, which does not rest on any single datum. Furthermore, if one wishes to find out whether a particular sound/meaning association exists in Native American languages, there is at present no other place to find such information except in Greenberg's notebooks.

As mentioned in footnote 1, I have added many morpheme boundaries that do not appear in the original sources, either on the basis of indicated morpheme boundaries in other related languages, or according to the analysis proposed in this chapter. Many of these suffixes are no longer synchronically motivated in the modern languages, representing fossilized elements that have lost their meaning. No doubt some of my proposed morpheme boundaries will turn out to be erroneous, and obviously not all of the proposed cognates have equal probabilities of being correct. Though many forms are virtually certain to be cognate (and it is these that guarantee the validity of the etymology), others can only be included with varying degrees of confidence, owing to semantic and/or phonological anomalies. It would of course be a miracle if every form cited below were genuinely cognate. But it would, in my opinion, be even more miraculous if the *vast majority* of these forms were *not* cognate, and the few random errors that inevitably creep into a work of this scope are not likely to affect the general conclusions drawn.

ALMOSAN: Proto-Algonquian **ne-tāna* 'my daughter,' Proto-Central Algonquian **-tāna-* 'daughter,' Blackfoot *ni-tána* 'my daughter,' Menomini *ni-tān* 'my daughter,' Cheyenne *nah-tōnna* 'my daughter,' Arapaho *na-tane* 'my daughter,' Atsina *na-tan* 'my daughter,' Proto-Algonquian **ne-tān-ehsa* 'my daughter,' Cree *ni-tān-is* 'my daughter,' Ojibwa *nen-tān-iss* 'my daughter,' Potawatomi *n-tan-əs* 'my daughter,' Fox *ne-tān-esa* 'my daughter,' Shawnee *ni-tān-e?θa* 'my daughter,' Proto-Algonquian **ne-tān-kwa* 'my sister-in-law,' Ojibwa *nen-tān-kwe* 'my sister-in-law,' Fox *ni-tā-kwa* 'my sister-in-law'; ?Proto-Algonquian **nī?-tā-wa* 'my brother-in-law (man speaking),' Abenaki *na-dō-kw* 'my brother-in-law, my sister-in-law,' Cheyenne ?*tatan-* 'older brother' (< **tantan*), Blackfoot *tsi-ki* 'boy' (< **tin-ki*), Arapaho *na-tsenota* 'my nephew'; Ritwan: Wiyot (yi)-*dān* ~ (yi)-*dār* '(my) son, father,' *tse-k* ~ *čī-k* ~ *tsa-k* 'child' (< **tin-ki*), Yurok *ne-ta-tš* 'my child,' *tšān-ūk-s* 'young child,' *tš'in* 'young man,' *tš'itš* (Robins) 'younger sibling' (< **tintin* or perhaps < **tin-ki*), čič (Gifford) 'very young sibling, very young child'; Kutenai *ga'-tšw'in* 'daughter' (cf. Yuchi *go-t'o* 'child' [*go-* = 'human being'], *go-t'e* 'man'), *tsu* 'sister (of a girl),' *tat* 'older brother,' *tšā* ~ *tsiya* 'younger brother,' *tī?te* 'granddaughter' (< **tintin*); Chimakuan: Chemakum *činni-s* 'sister,' Salish: Flathead *sín-tš'e?* 'younger brother (man speaking),' *tún-š* 'sister's children,' *tití-k^we* 'woman's brother's daughter,' Lillooet *s-tūnə-q* 'niece,' Coeur d'Alene *tune* 'niece,' Columbian *šin-ča* 'younger brother,' *tí-k^wa* 'father's sister,' *tūn-x* 'man's sister's child,' Spokane *tūn-š* 'man's sister's child,' *łuwes-tin* 'deceased parent's sibling,' Lower Fraser *tān* 'mother,' Pentlatch *tan* 'mother,' *tet* 'boy,' Lkungen *nə-tan* 'mother'; Wakashan: Nootka *t'an'a* 'child,' *t'an'ē-?is* 'child,' Kwakwaka *t'ana* 'blood relative,' Oowekyala *tān'i-ğui-l* 'to be closely related to one's spouse.'

KERESIOUAN: Siouan: Proto-Siouan **i-thā-ki* 'man's sister (younger or older),' Dakota *taŋ-ke* 'man's older sister,' Santee *mi-tān-ke* 'my sister,' Osage *i-tō-ge* 'elder sister,' Quapaw *tā-ki* 'younger sister,' Kansa *wi-tō-ge* 'younger sister,' Chiwere *taŋ-e* 'sister,' Biloxi *tā-ki* 'elder sister,' Tutelo *tahāk* 'sister,' Proto-Siouan **i-thā-ka* 'woman's younger sister,' Mandan *tā-ka* 'younger sister,' Dakota *taŋ-ka* 'woman's younger sister,' Proto-Siouan **yí-ki* 'son' (< Pre-Siouan **śi-ki* < **thin-ki*?), Assiniboine *tš'k-š* 'son,' Teton *tshī-k-š* 'son,' Omaha *žī-ge* 'son,' Biloxi *as-tī-ki* 'boy,' Proto-Siouan **yú-ki* 'daughter' (< Pre-Siouan **šú-ki* < **thun-ki*?), Assiniboine *tšū-k-š* 'daughter,' Santee *tshū-k-š* 'daughter,' Osage *žō-ge* 'daughter,' Biloxi *as-tō-ki* 'girl,' Proto-Siouan **thū-wī* 'paternal aunt,' Dakota *toŋ-wiŋ* 'aunt,' Santee *tō-wī* 'aunt,' Winnebago *čū-wi* 'paternal aunt,' Biloxi *tōn-i* 'paternal aunt, son-in-law,' Proto-Siouan **thū-kā* 'grandfather,' Assiniboine *tū-gā* 'maternal grandfather,' Santee *thū-kā* 'maternal grandfather,' Biloxi *tú-kā* 'maternal uncle,' *tan-do* 'woman's younger brother,' *a-di* 'father,' Quapaw *ī-do-ke* 'male,' Biloxi *i-to* 'male, man,' Mandan

i-se-k 'male,' Iowa *tá-gwa* 'son-in-law'; Yuchi *-t^sone* 'son, daughter (woman speaking),' *-tane* 'brother,' *-s^ane* 'man's son,' *go-t^sé* 'man, father,' *go-t^so* 'child,' *tu-kā* 'grandfather,' *wi-ta-ki* 'young man'; Caddoan: Caddo *tan-arha* 'wife,' *dadin* 'his sister,' *dono* 'male,' Pawnee *i-tahri* 'his sister,' *ti-ki* 'boy, son' (< **tin-ki*), Arikara *i-tahni* 'his sister,' Adai *hā-siq* 'man'; Iroquoian: Cherokee *a-tsā* 'male of animals,' *ā-t'ɔn'ɔⁿ* 'young woman,' *a-tsutsu* 'boy,' *e-dudu* 'grandfather,' Seneca *-a-tēn-ōte-* 'to be siblings,' *-tēno-ō?* 'to be parents-in-law,' *-a-tyoh* 'sibling-in-law,' Onandaga *ho-tonia* 'baby,' Cayuga *htsi?* 'older sibling,' *-a-tēhn-ōtē?* 'to be siblings,' Mohawk *-?tsin* 'male, boy,' *-a-ten-o?tsā* 'brothers and sisters, to be siblings,' *-a-tyo-* 'brother-in-law,' *thā-th-* 'aunt,' *-a-thū-wisā* 'woman,' *?-tsi-* 'older sibling,' *?-a-te-re-* 'grandchild'; Keresan: Keres *-t'aona* 'sister.'

PENUTIAN: Tsimshian *luk-taēn* 'grandchild,' ?Gitksan *dii-kw* 'daughter, sister (woman speaking)'; Oregon: Takelma *t^hl-* 'man, male, husband,' *t^hl-(t^k)* ' (my) husband,' *t^sa-* 'woman's brother's child, man's sister's child,' Tfaliti *čaŋ-ko* 'man,' Coos *te^u* 'nephew,' Siuslaw *tīl* 'niece,' *t^hāt* 'nephew' (< **t^han-t'an*); Plateau: North Sahaptin *p-t^hin-ik-s* 'girl' (cf. the Yurok form for 'young child' cited above), *p-ta-χ* 'son's child,' *pi-tā-χ* 'maternal uncle,' *pām-ta* 'woman's brother's son,' Nez Perce *pi-t^hin* 'girl,' *?in-t^hi-k^h-wn* 'my wife's brother' (literally, "my-brother-reciprocal-wife"), *pām-tin* 'woman's brother's son,' *?tā-qa?* 'maternal uncle,' Molale *pam-tin* 'nephew,' Cayuse *pnē-t^hiŋ* 'my brother,' *i-tsaŋu* 'young'; Proto-California Penutian **tač* 'father' (< **tan-ki*), Wintun *te-* 'son, daughter,' *o-tun-čē* 'older sister,' *tan-(čē)* 'father, paternal uncle,' *tai-* 'nephew, niece, grandchild,' *tūtuh* 'mother' (< **tuntun*), *to-q-* 'sister-in-law,' Northwest Wintun *bi-čēn* 'daughter'; Maiduan: Proto-Maiduan **t^hyn* 'younger brother,' Nisenan *tyne* 'younger brother,' *?i-tīti* 'cousin' (< **?i-tintin*), *te^anaj* 'boy,' Proto-Maiduan **téh* 'child,' Maidu *té* 'son,' Proto-Maiduan **-tō* 'grandmother'; Yokuts: Yaundanchi *bu-tson* 'son,' *ʔaaʔi* 'man,' *t^huta* 'maternal grandmother' (< **t^huntan*); Miwok: Proto-Miwok **ʔa-ta* 'older brother,' Saclan *tune* 'daughter,' Lake Miwok *ʔa-tāa* 'older brother,' Plains Miwok *tī-ka* 'sister, elder sister,' *ʔā-ti-* 'younger brother or sister,' *ʔa-ta-t^hi* 'older brother' (< **ʔa-tan-ki*), *tūne-* 'daughter,' *tete* 'mother's younger sister,' *tete-či* 'mother's brother's daughter, father's sister's daughter' (< **tenten-ki*), Southern Sierra Miwok *tune-* 'daughter,' *tā-či?* 'older brother,' Central Sierra Miwok *tūni* 'small, young,' *-tūne* 'daughter,' *tā-či* 'older brother,' *a-čē* 'grandchild,' *a-te* 'younger brother, younger sister,' *tēte* 'older sister'; Costanoan: San Francisco *ta-ka* 'brother,' *šen-is-muk* 'boy' (MALE-DIMINUTIVE-CHILD?), Ohlone *tanān* 'older sister,' *t^hinin* 'daughter, child,' *ta-ka-m* 'older brother,' Santa Cruz *tānan* 'older brother,' *ū-te-k* 'younger sibling,' *sinsin* 'nephew,' Rumsen *-tān* 'older sister,' San Juan Bautista *ta-ka* 'older brother,' Rumsen *tana* 'older sister,' *tā-ka* 'older brother,' Mutsun *šin-ie-mk* 'boy,' *ʔuta* 'young man,' *ta-ka* 'older

brother,' *tit^s-tan* 'daughter-in-law'; Zuni *tač-ču* 'father' (< **tan-ku*); Gulf: Yuki *ʔā-ṭ'át* 'man,' -*t^s'ina* 'daughter's husband,' -*t^s'i-hwa* 'husband's brother,' -*t^s'i-hwa-pi* 'wife's sister, husband's sister,' Wappo *taʔa* 'mother's younger brother,' Coast Yuki *di-ke* 'older sibling,' Natchez *tsitsī* 'infant' (< **tintin*), *hi-dzina* 'nephew,' Chitimacha *tāt'in* 'younger brother or sister,' *ʔa-si* 'male,' Atakapa *t^s'on* 'small, young,' *ten-s* 'nephew,' *ten-sa* 'niece,' *teñ* 'mother,' Tunica *šī* 'male,' *htóna-yi* 'wife,' Koasati *t^si-ka* 'elder son,' *á-ti* 'person,' *t^si-ka-si* 'younger son,' *á-to-si* 'infant child'; Mexican: Mayan: Yucatec *a-tan* 'wife,' Lacandon *i-tsin* 'younger brother,' Chorti (w-)*ih-tān* 'sibling,' (w-)*ih-t^s'in* 'younger sibling,' Cholti *i-tan* 'sister,' Proto-Cholan (Fox) **ih-tan* 'man's older sister, man's older female cousin,' Chol *ih-tiʔan* 'man's sister,' čok-tuiun 'boy,' Huastec *t^sanū-b* 'aunt,' Ixil *i-t^s'an* 'aunt,' Pokomchi *i-t^s'in-* 'younger sibling,' *i-t^s'an-naʔ* 'aunt,' Pocomam *iš-tan* 'girl' (*iš* = female), Kakchiquel *iš-tan* 'señorita,' *a-čin* 'man,' Proto-Tzeltal-Tzotzil **ʔih-t^s'in* 'man's younger brother, woman's younger sibling,' **ʔi-čan* 'maternal uncle,' Tzeltal *čučuʔ* 'grandmother,' Aguacatec *ču* 'grandmother,' Ixil *t^s'uy* 'grandmother,' Kekchi *naʔ-čin* 'grandmother,' Mam *ču* 'mother,' Ixil *čuč* 'mother,' Quiché *ču* 'mother,' Chontal *i-t^s'in* 'younger sibling,' *i-čan* 'father-in-law,' čič 'older sister'; Mixe-Zoque: Sierra Popoluc *hā-thuŋ* 'father,' Sayula *čuʔ-naʔ* 'father-in-law,' Texistepec *tene-īap* 'man,' Mixe *tat* 'father,' *ta-gh* 'mother,' *ats* 'elder brother,' *its* 'younger brother,' *uts* 'younger sister,' *tsyö* 'elder sister,' *tsu-gu* 'aunt,' Totonac *t'ána-t* 'grandchild.'

HOKAN: Proto-Hokan (Kaufman) *(ā)t'u(n) 'brother,' *-č'i (diminutive) (< *-t'in?), Karok *tunuè-ič* 'small,' Arra-arra *atit^s* (< **a-tin-ki*) 'grandson, paternal grandparent'; Shasta: Shasta *ʔā-ču* 'older sister,' *a-ču-gwi* 'younger sister, younger female cousin,' Konomihu *ču-ka* 'boy'; Palaihnihan: Achomawi *a-tūn* 'younger brother,' *a-tā(-wi)* 'daughter,' *ōt* 'daughter-in-law,' čini 'maternal uncle,' -*tsan* (diminutive); Yanan: Northern Yana *t'inī* 'to be little,' *t'inī-si* 'child, son, daughter,' Yahi *t'i'nī-si* 'child, son, daughter'; Pomo: Proto-Pomo (McLendon) **t^su-t^s'i* ~ **t^se-t^s'i* 'mother's brother,' **t'á-qi* 'younger sibling,' **t^hút^s* 'mother's older sister,' Southern Pomo *t'i-ki* 'younger sibling,' *aba-tsin* 'father's older brother,' *amu-tsin* 'father's sister,' Northeast Pomo *t'i-ki* 'younger sibling,' *čunū-š* 'child' (cf. Chemakum činni-s 'sister'), *ti-ki-dai* 'older sister,' *tono* 'brother-in-law,' *tā-č'i* 'maternal grandfather,' Central Pomo *de-ki* 'older sister,' *de-ki-dai* 'younger sister,' Eastern Pomo *tsets* 'mother's brother,' *tuts* 'mother's older sister,' Southeast Pomo *ʔi-m-sen* 'maternal uncle,' *ʔi-m-t^se-x* 'paternal uncle,' *ʔi-m-t^sen* 'maternal grandfather,' *χá-t^s'in* 'sister's child,' *wi-m-t'a-q* 'younger sister,' (du-)*t'a-q* 'younger brother,' Southwest Pomo *t'i-ki* 'brother's son'; Washo -*ʔā-t'u* 'older brother,' *wi-ts'u-k* 'younger sister,' *t'ánu* 'person'; Salinan-Chumash: Chumash: Ynezeño *tuʔn* 'son, daughter,' (ma-k-)*ič-tuʔn* '(my) son,' čiči 'boy,' Santa Barbara *taniw*

'little, child,' San Buenaventura *u-tinai* 'infant,' Santa Cruz *tunne-č* 'boy,' *huk-tana-hu* 'my son'; Esselen *tano-č* 'woman,' *tutsu* 'niece'; Salinan *a-t'on* ~ *a-t^hon* 'younger sister,' *tani-l* 'granddaughter,' *ta-k* 'nephew, niece'; Yuman: Mohave *n-tai-k* 'mother,' *in-čien-k* 'older brother,' *n-athi-k* 'mother's older sister,' Yuma *an-t^sen* 'older brother,' Kamia *in-ča-čun* 'my older sister,' Havasupai *θa-wa* 'woman's sister' (< **tan-kwa?*); Coahuiltecan: Coahuilteco *ya-t'ān* 'sister,' *t'an-pam* 'child,' *t'āna-gē* 'father,' *ma-t'ān* 'paternal grandchild,' *tza-t'an* 'maternal grandchild,' *kuan-t'ān* 'grandchild,' *ku-t'an* 'uncle,' *maki-t'ān* 'aunt,' *?t'atā-l* 'brother,' *t'an* 'small, young' (cf. Achomawi *-tsan* [diminutive]); Tlappanec *ada-tāh-wī?* 'child'; Jicaque *tsi-kway* 'boy, child'; Yurumangui *ki-tina* ~ *tintin* 'woman,' *a-ta-isa* (< **a-tan-isa*) 'sister.'

CENTRAL AMERIND: Uto-Aztecan: Proto-Uto-Aztecan **tana* 'daughter, son,' Varahio *taná* 'son, daughter,' Tarahumara *rana* 'son, daughter,' Proto-Uto-Aztecan **tu* 'boy,' ?Proto-Uto-Aztecan **sun* ~ **son* 'woman,' Northern Paiute *tua* 'son,' *a-tsi* 'maternal uncle,' *to-go'o* 'maternal grandfather,' *?taŋ-?wa* 'man,' Southern Paiute *tua* 'son' (< **tona-*, according to Sapir), *t^sinA-nī* 'mother's younger brother,' Mono *tuwa* 'son,' *t^su-ku* 'old man,' Tübatulabal *tena* 'man,' *?tôhan* 'father's younger brother,' *u-tsu* 'maternal grandmother,' *tu-gu* 'brother's wife,' Kawaiisu *tuwaana* 'son,' *to-go* 'maternal grandfather,' *šinu* 'maternal uncle,' Northern Diegueño *e-čun* 'paternal uncle's daughter, maternal aunt's daughter,' Luiseño *tu?* 'maternal grandmother,' *tu?-mai* 'woman's daughter's child' (*-mai*=diminutive), *šugáa* 'woman,' Cahuilla *ne-suga-mah* 'my daughter,' Serrano *-šun* 'daughter,' *čič* 'woman's sister's son-in-law' (< **tintin*), Pipil *-tsin* (diminutive), *pil-tsin* 'boy, son' (cf. Tewa *ebile* 'child'), Nahuatl *ten-tzo* 'younger brother,' *tzin* (diminutive), *min-ton-tli* 'great grandson'; Tanoan: Kiowa *tā?* 'sister, brother,' *nɛ-t5:* 'my brother,' Hano *tutu'un* 'paternal uncle,' *t'ete* 'maternal grandfather,' Tewa *ti'u* 'younger sibling,' *t'ūnu* 'maternal uncle,' *t'et'e* 'maternal grandfather,' *tū?ε* 'nephew, niece' (< **tun-ke*), *sēŋ* 'man, male,' *sūn-tsi* 'intimate friend, chum,' Taos *añ-t'út'ina* 'my older sister,' *ñīi-tona* 'wife,' *añ-tāna* 'kin of wife,' San Ildefonso *-tiu* 'younger sibling,' Isleta *tiyū* 'younger sister'; Oto-Manguean: Proto-Oto-Manguean **sehn* 'male,' **suh*n 'female,' Proto-Central Otomi **šū-t'i* 'girl' (< **t'un-kī?*), **t^sū* 'female,' Chichimec *-čō* 'female,' Mazahua *t'i-?i* 'boy' (< **t'in-kī*), Otomi *t'i-xū* 'daughter,' *?i-dā* 'woman's brother,' Mazatec *č^hū* 'woman,' *ču-kwhā* 'aunt,' *in-ta* 'son,' Chatina *t^sunō-hō* 'woman,' Proto-Oto-Manguean **ntaHn* 'mother,' **ntan* 'child,' **ta?n* 'sibling,' Mixtec *tā?ā* 'sibling,' *tā?nū* *i?šá* 'younger sister' (*i?šá* = 'child'; cf. Proto-Algonquian **-tān-ehsa* 'daughter'), *du-?wi* 'aunt,' Trique *du-?wε* 'aunt,' Cuicatec *?dīnó* 'brother,' Popoloca *t^shjan* 'child, son,' Chinantec *tsañi-h* 'man,' Zapotec *p-ta?n* 'woman's brother,' Proto-Oto-Manguean **si(?)n* 'youngster,' Popoloca *čin-ka* 'little (of animals),' Proto-Otomi **t^si* 'small (of animals and humans),' Proto-Chatino **šīnV?* 'son,' Isthmus Zapotec *ži?iñi?* 'son,' Proto-Chinantecan **sī?* 'child.'

CHIBCHAN: Tarascan *tʰutʰu* 'grandmother' (< **tuntun*), Cuitlatec *ču* 'boy,' *čanu-i* 'my wife,' Xinca *u-tan* 'mother,' *tatan* 'father,' Lenca *tuntu-rusko* 'younger sister,' *ū-tʰāne* 'father,' Sumu *i-tanni* 'mother,' *ti-tin-ki* ~ *ti-tan-ki* 'my grandmother,' Miskito *tuk-tan* 'child, boy,' *tah-ti-ki* 'my maternal uncle (woman speaking),' Corobisi *tun* 'man,' Rama *du-tuŋ* 'younger brother,' *i-tūŋ* 'father,' *tau* 'baby,' Changuena *sin* 'brother,' Move *nge-dan* 'brother-in-law,' *dun* 'father,' *ni-dan* 'male,' Sanema *ul-dwīn* 'child,' *ur-dwīn* 'boy,' *haš-twīn* 'grandfather,' *pīšī-dwīn* 'mother-in-law,' Shiriana *tasém-taiina* 'child,' Ulua *i-taŋ* 'mother,' Cuna *tuttu* 'woman,' *toto* 'small girl,' Atanque *ah-tōna* 'old, old man, old woman,' Guamaca *tana* ~ *tena* 'old,' *terrua-tōna* 'old man,' *mona-tōna* 'old woman,' Kagaba *tu-gua* 'grandchild,' *?suk-kua* 'son,' *?du-we* 'elder brother,' Chimila *tún-gva* 'friend,' Banticua *ču-ka* 'grandchild,' *a-ta-ka* 'old woman,' Guamaca *a-tena-sina* 'old woman,' Motilon *diani* 'wife,' *a-te-gwa* 'nephew,' Dobokubi *a-te-ki* 'father,' *ti-kwa* 'young man,' Chibcha *čune* 'grandchild,' Muyska *te-kua* 'boy, young man,' Tegria *su-ka* 'sister.'

PAEZAN: Citara *tana* 'mother,' Tucura *dana* 'mother,' Warrau *dani-jota* 'mother's older sister,' *dani-katida* 'mother's younger sister,' Chami *tana* 'mother,' *?Guambiana i-ču* 'woman, wife,' Paez *ne-čī-k* 'son' (< **ne-tin-ki*), *ne-tson* 'brother-in-law,' *n-duh* 'son-in-law,' *anš-tsun-kue* 'grandchild,' *?Totoro i-šu-k* 'wife,' *?Nonoma doana* 'son-in-law,' Cayapa *tʰuh-ki* 'sister' (< **tun-ki*), Colorado *sona(-sona)* 'woman,' *sunā-lat-suna* 'wife,' *so-ke* 'sister,' Eten *čan-ka* 'sister,' *sonā-ŋ* 'wife,' Chimu *čaŋ* 'younger brother, nephew,' *čuŋ* 'sister,' Millcayac *tzhceng* 'son.'

ANDEAN: Simacu *kax-đana* 'maternal uncle,' Iquito *i-ta-ka* 'girl,' Araucanian *tʰoñi* 'woman's son' (cf. Yuchi *tʰone* 'woman's son'), Aymara *tayna* 'first-born of either sex,' *t'ini* 'a woman near to her delivery,' Tehuelche *den* 'brother,' Patagon *čen* 'brother,' Pehuenche *a-tʰena* 'brother,' *čeče* 'grandchild,' Mane-kenkn *ie-tog-te* 'brother,' Ona *tane-ngh* 'maternal uncle,' Tehuelche *thaun* 'sister,' Tsoneka *ke-tun* 'sister,' Alakaluf *se-kwai* 'grandchild,' *se-kway-ok* 'grandmother,' *esna-tun* 'mother.'

MACRO-TUCANOAN: Iranshe *šūna* 'father-in-law,' *señu-p* 'man'; Kaliana-Maku: Kaliana *tone* 'mother-in-law,' *tai-ge* 'brother,' Auake *toto* 'older brother,' Maku *tenu-pa* ~ *tenu-ba* 'son, daughter'; Puinave: Puinave *a-tīi* 'my son,' *tēi-ūai* 'brother,' *a-tōai* 'cousin,' *ali-tan* 'father-in-law, grandfather,' Tiquie *ton* 'daughter,' *ten* 'son,' *tenten* 'grandchild,' Yehupde *tē* 'child,' Nadobo *tata* 'child,' Dou *tute* 'child,' Papury *toŋ* 'daughter,' *ten* 'son,' *tein* 'wife,' *tong-teip* 'son-in-law,' Ubde-Nehern *tēain* 'boy,' *ten* 'son,' *tetein* 'wife,' *tēteté* 'grandchild,' *tēn-do* 'maternal uncle' (cf. Biloxi *tan-do* 'woman's younger brother'), *tētón* 'niece'; Catuquinan: Bendiapa *iš-tano* 'woman,' Parawa *iš-tano* 'woman'; Canichana *eu-tana* 'mother'; Huari: Huari *tān* 'mother,' Masaca *tani-mai* 'younger sister'; Capishana *mia-tuna* 'older brother,' *totoi* 'brother-

in-law,' *ña-tō-kūi* 'older sister,' *a-ta?* 'aunt'; Nambikwara: Mamainde-Tarunde *denō* 'woman,' *čōnē* 'grandfather,' (*t*)*oán-osu* 'older sister,' Southern Nambikwara *tyū?n* 'small,' Tagnani *tana-nde* 'mother,' *teno-re* 'woman,' *ui-tono-re* 'son'; Ticuna-Yuri: Yuri *čo-ko* 'man'; Tucanoan: Amaguaje *t^sin* 'boy,' *ye-tsen-ke* 'son,' Coreguaje *čīi* 'son,' *čīio* 'daughter,' *a?-či* 'elder brother,' *a?-čo* 'elder sister,' *čo?-jei* 'younger brother,' *čo?-jeo* 'younger sister,' Siona *t^sijn* 'son,' Yupua *tsīn-geē* 'boy,' *a-čane* 'man,' Tucano *ti-kā* 'son-in-law,' Tatuyo *teñē* 'brother-in-law.'

EQUATORIAL: Trumai *tain* 'younger sister (man speaking),' *ta-kwai* 'younger brother (woman speaking),' Cayuvava *tete* 'uncle,' *tena-ni* 'woman,' Taruma *a-či* 'sister,' Yuracare *suñe* 'man,' Timote: Cuica *tin-gua* 'son, boy,' Mococho *tin-gua* 'son, boy,' *nak-tun* 'woman'; Zamucoan: Morotoko *a-tune-sas* 'girl'; Piaroa *tsehāū* 'brother,' *tsēā-nā* 'grandfather,' *čōno* 'grandfather,' *tsēānā* 'grandmother'; Jivaroan: Cofan *tzán-dey-dése* 'boy,' *tsan-deye* 'man,' *tōtō* 'uncle,' Esmeralda *tin* ~ *tīon* 'woman,' *tini-usa* 'daughter,' Yaruro *to-kwī* 'small boy,' *išī-to-hwī* 'small girl,' *ieyī-to-kwī* 'young woman,' *hia-to-kwī* 'maternal grandson,' *hada-to-kwī* 'paternal granddaughter,' Kariri: Dzubucua *to* 'grandfather,' Kamaru *te-ke* 'nephew, niece,' Kariri *to* 'grandfather,' Tupi: Guayaki *tuty* 'paternal uncle, sister's son,' Digüt *đānqā* 'younger sister,' Ramarama *i-te* 'brother,' Amniape *o-ta* 'daughter,' Kamayura *u-tu* 'grandmother,' Sheta *kuña-tai* 'young woman,' Canoeiro *kuña-tain* 'small girl,' Tapirape *ā-tāi* 'female infant,' *kot-ātāi* 'young girl,' Urubu-Kaapor *ta?in* 'child,' Tembe *t̃y-k̃h̃ỹr* 'older brother,' *ty-h̃h̃ỹr* 'younger brother,' *coai-t̃y* 'brother-in-law,' *a-tiu* 'father-in-law,' Emerillon *tsitsi?* 'younger sister,' *dzadza* 'older sister,' Arikem *u-taua* 'brother,' Cocama *ikra-tsüng-ra* 'child,' Guaraní *taty* 'maternal father-in-law,' *tuty* 'uncle,' Aweti *a-tu* 'grandfather,' Uruku *toto* 'grandfather,' Manaže *tutý* 'paternal uncle,' Oyampi *tu-ku* 'younger brother'; Guahiban: Guahibo *ā-tō* 'elder brother'; Guamo *tua* 'daughter'; Coche *tan-gua* 'old man'; Arawan: Deni *tu* 'daughter,' *da?u* 'son,' Paumari *a-thon-i* 'granddaughter,' *ā-dyu* 'older brother'; Chipayan: Uru *thun* 'wife,' (*t*)*soñi* 'man,' Chipaya *thun* 'wife,' *t'uana* ~ *txuna* 'woman,' *t'uñi* ~ *tsuñi* 'brother's wife (man talking),' Caranga *t^hun* 'wife,' *čuñi-l* 'brother-in-law,' *tuto* 'grandchild'; Chapacuran: Chapacura *tana-muy* 'daughter,' *a-čoke-tunia* 'girl,' Itene *tana* 'woman,' *tana-muy* 'girl,' *tana-man* 'woman,' Abitana *tana* 'woman,' Kumana *tana-man* 'woman,' Maipuran: Proto-Maipuran **ahšeni* 'man' (< **a?-teni?*), Amuesha *ah-šēñ-ō(š)* 'male,' Ignaciano *a-čane* 'person,' Asheninca *a-šeni-nka* 'fellow countryman,' Marawa *tino* 'small child,' *tana-n* 'woman,' Wapishana *ĩ-dan(e)* 'child, son, daughter' *u-dan-rin* 'daughter,' *ĩ-dan-karo* 'nephew,' *ĩ-dan-kearo* 'niece,' *douani* 'lad,' *i-đini-re* 'son-in-law,' *i-đini-ru* 'daughter-in-law,' *teti* 'maternal uncle,' Uainuma *a-ttsiu* 'uncle,' Moxo *a-ču(-ko)* 'grandfather,' Proto-Maipuran **čina-ru* 'woman,' Baure *e-tón* 'woman,' Palicur

te 'younger brother,' tino 'woman,' tana-n 'woman,' Karipura tina-gubari 'woman,' Custenau tine-ru 'woman,' a-tu 'grandfather,' Uirina a-tina-re 'man,' Yaulapiti tine-ru-tsu 'girl,' tina-u 'woman,' Yavitero nu-tani-mi 'my daughter,' no-tajñ-tani 'my son,' Baniva no-tani 'my son,' Mehinacu tene-ru 'woman,' a-to 'grandfather,' Waura tine-ru-ta 'girl,' tiné-šu 'woman,' Arawak o-tu 'daughter,' a-daün-ti 'maternal uncle,' Manao no-tany 'my son,' y-tuna-lo 'woman,' Campa t^sina-ni 'woman,' a-ten-dari 'man,' Tuyoneri ua-tone 'old man, old woman,' Atoroi dan 'baby, son,' dani-ñina 'son,' tidn 'younger brother,' Goajiro čon 'son,' tan-či 'brother-in-law,' Bare hana-tina-pe 'child,' Ipurina nu-tani-ri 'my husband,' ni-tari 'my brother,' ni-taru 'my sister,' n-atu-kiri 'my grandfather.'

MACRO-CARIB: Andoke tīna 'a woman,' tihi 'mother, female child' (< *tin-ki), Peba-Yaguan: Yagua dēnu 'male child,' Yameo a-tin 'man'; Carib: Surinam tī-?wo 'brother-in-law,' Macusi tañ-sa 'girl' (cf. Atakapa ten-sa 'niece'), ake-ton 'old man,' Arara enru-ten-po 'small child,' Taulipang a-t^si-ke 'older brother,' aeke-toñ 'old person,' Galibi tun 'father,' Pavishana tane 'my son,' tutu 'grandfather,' Azumara toto 'man,' Bakairi i-tano 'grandfather'; Boran: Imihita tã-ti 'grandfather,' Muinane i-to 'paternal uncle'; Witotoan: Witoto i-taño 'girl,' o-suño 'aunt,' i-su 'paternal uncle,' Witoto-Kaimö iu-suna 'aunt, grandmother,' Nonuya om(w)ũ-tona 'sister.'

MACRO-PANOAN: Mascoian: Mascoy tanni-yap 'sister-in-law,' Kaskiha an-tū-ye 'woman's son,' Lengua tawin 'grandchild,' a-tai 'my grandfather'; Moseten: Moseten čuñe 'brother-in-law, paternal son-in-law,' Mataco: Sotsiayay taão-kla 'boy,' Mataco čina 'younger sister,' Vejoz činna 'younger sister,' Churupi čin-jo 'younger sister,' Towithli tuna-ni 'woman,' Suhin tino-iče 'young woman,' suña 'younger sister'; Panoan: Cashibo řanu 'woman,' Cashibo toa 'child,' didan 'mother,' Shipibo sanu 'grandmother,' tita 'mother,' sun-taku 'young woman,' Sensi čina-n 'woman,' Panobo řon-tako 'girl,' Arazaire čina-ni 'wife,' Mayoruna řanu 'grandmother,' nso-ton 'child,' čuču 'older sister,' tsana 'man,' Culino ha-tu 'brother,' a-tsi 'sister,' mu-tun 'old man,' Nocaman tano 'woman, wife'; Tacanan: Huarayo čina-ni 'woman,' Tacana -tóna 'younger sister,' dúdu 'older sister,' u-tse-kwa 'grandchild,' Huarayo toto 'man's brother,' Arasa deana-wa 'son,' dodo 'brother,' Chama toto 'uncle,' čina-ni 'wife,' Tiatinagua čina-ni 'wife.'

MACRO-GE: Erikbatsa tsi?n-kārar 'small'; Oti dondu-edē 'woman'; ?Fulnio efone-don-kia 'wife'; Guato čina 'older brother'; Caraja wa-θana 'uncle'; Bororo: Bororo i-tuna-regede 'child,' Umotina yūto ~ in-dondo 'maternal son-in-law,' řu-ko 'paternal father-in-law' (< *tun-ko); Botocudo giku-tař 'sister,' tontan 'wife,' gy-june 'brother-in-law'; Macuni a-tina-n 'girl, daughter,' Palmas tantā 'female,' tanti 'woman'; Kamakan: Cotoxo či-ton 'brother,' Ka-

makan *totsöhn-tan* 'mother,' Meniens *a-to* 'brother,' *as-čun* 'woman'; Puri: Puri *ek-ton* 'son,' *makaša-tane* 'brother,' *titiña-n* 'grandmother,' Coroado *mokaša-tane* 'brother,' Coropo *ek-tan* 'mother'; Mashakali: Mashakali *etia-tiün* 'woman,' Malali *niop-tan-piteknan* 'woman,' *tana-tāmon* 'father,' Patasho *eke-tannay* 'brother,' *a-tön* 'mother,' Capoxo *asče-tan* 'wife'; Kaingang: Apucarana *wey-tytan* 'younger sister,' *ti* 'man,' *un-tantan* 'woman,' ?Came *tata* 'woman,' Catarina *tata* 'young woman, young man, young,' Guarapuava *tetan* 'girl,' *un-tantan* 'woman,' Tibagi *tog-tan* 'girl,' *tantö* 'woman'; Ge: Timbira *tö* 'older brother,' Apinaye *i-tö* 'brother,' *i-tö-dy* 'sister,' *tu?-ká* 'paternal uncle, son-in-law,' *tu?-ka-ya* 'maternal grandfather,' *tu?-ka-tí* 'brother-in-law, son-in-law,' Cayapo *i-ton* 'brother,' *i-ton-juö* 'cousin,' *torri-tuŋ* 'old woman,' *tun-juo* 'girl,' *jūno* 'father,' Aponegicran *i-thon-ghi* 'sister,' *i-thon-g* 'brother,' Krêye *tana-mni* 'boy,' *tö* 'younger brother,' *-tö-ue* 'sister,' *n-čö* 'father,' *n-čü* 'paternal uncle,' Caraho *a-ton-ka* 'younger sister,' *tö-i* 'sister,' *tö* 'brother,' *ton-ko* 'older brother,' *n-čon* 'father,' *in-t^sun* 'uncle,' Krahó *ĩ-čü* 'father,' *ĩ-če* 'mother,' *i-tö* 'brother,' *i-tö-i* 'sister,' Canella *i-nčü* 'my father,' *i-nčē* 'my mother,' *i-to* 'older sibling,' Parkateye *a-ton* 'brother,' *a-ton-kā* 'older brother,' *a-ton-re* 'younger brother,' *a-toin* 'sister,' *a-toin-kā* 'older sister,' *a-toin-re* 'younger sister,' Piokobyé *a-tön* 'older sister,' *a-tön-kā* 'younger sister,' *tön-ko* 'older brother,' *ha-tön* 'younger brother.'

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10

The Linguistic Origins of Native Americans

Ever since European explorers stumbled upon the Americas 500 years ago—and discovered a continent already populated by myriad ethnic groups, speaking hundreds of distinct languages—the question of the origin of the indigenous Americans has puzzled scientist and layman alike.* When it became known in the late eighteenth century that language could be used to trace the origins and migrations of different peoples, it was hoped that these techniques could be applied to Native American languages, first, to classify New World languages into some number of linguistic families comparable to Indo-European, and, second, to find relatives for these groups in the Old World. Thomas Jefferson had a well-known interest in such matters throughout his life. A little over 200 years ago (January 12, 1789) he wrote James Madison, “I endeavor to collect all the vocabularies I can, of American Indians, as of

* An earlier version of this chapter was presented at the International Conference on Language and Prehistory, University of Michigan, November 10, 1988, and was published as Ruhlen (1989). I would like to thank Joseph H. Greenberg for graciously allowing me to use material from his Eurasiatic notebooks. As the proposed etymologies attest, this material often strengthens and extends Nostratic etymologies and in many cases provides evidence for new etymologies. It was, in fact, Greenberg who first suggested a “special relationship” between Eurasiatic and Amerind, in a private conversation in 1985. I would also like to thank John Bengtson, Allan Bomhard, Dell Hymes, and Vitaly Shevoroshkin for critical suggestions, not all of which I have heeded.

those of Asia, persuaded, that if they ever had a common parentage, it will appear in their languages" (Jefferson 1904: 267). But although the process of classifying the languages of the Americas proceeded with demonstrable progress during the succeeding two centuries—especially at the lower levels of classification—the problem of finding Old World relatives has until recently had little success. According to William Bright (1974: 208), "attempts to relate native American languages to Asian languages have not gained general acceptance." In a recent comparative treatment of North American languages (Campbell and Mithun 1979), a possible genetic relationship between Eskimo-Aleut and Chukchi-Kamchatkan is deemed "the only proposal of connections between New World and Old World languages which at present appears to be worthy of attention" (p. 39).

In recent decades, the results of three major research programs have allowed us to attack the problem of the origin of Native Americans in a new light. The first of these programs is the Russian Nostratic school, which has published over 600 etymologies connecting six Old World families (Illich-Svitych 1967, 1971–84). The second is Greenberg's classification of New World languages (Greenberg 1987). The third, Greenberg (to appear) is a book on a language family he calls Eurasiatic, which corresponds to a considerable degree with Nostratic (for differences between the two, see below). What follows will make extensive use of all these materials.

I will begin by examining earlier efforts to connect Old and New World languages genetically and will indicate why they were generally unsuccessful. I will then discuss the general congruence between biological classifications and linguistic classifications that has recently been noted by human geneticists studying the structure of the human population on the basis of genetic polymorphisms (Excoffier et al. 1987, Cavalli-Sforza et al. 1988, Barbujani and Sokal 1990). Finally, I will present evidence connecting the Amerind family with the Eurasiatic family. It should be pointed out that additional connections between Amerind and Eurasiatic are given in Chapter 14 herein. The etymologies given there, however, connect both Amerind and Eurasiatic with other other language families. The etymologies adduced in this chapter have a narrower domain, each apparently being restricted to the Eurasiatic/Nostratic-Amerind group.

NOSTRATIC AND EURASIATIC

The belief that Indo-European is a "family isolate," that is, a family with no known relatives, is one of the most cherished myths of twentieth-century linguistics. Yet at the beginning of this century many linguists had already determined that Indo-European was clearly affiliated with other language fam-

ilies. The English phonetician Henry Sweet wrote in 1901 that "if all these and many other resemblances that might be adduced do not prove the common origin of Aryan [Indo-European] and Ugrian [Finno-Ugric] . . . , then the whole fabric of comparative philology falls to the ground, and we are no longer justified in inferring from the similarity of the inflections in Greek, Latin and Sanskrit that these languages have a common origin" (p. 120). The Italian linguist Alfredo Trombetti expressed the same view four years later: "It is clear that in and of itself the comparison of Finno-Ugric *me* 'I,' *te* 'you' with Indo-European *me-* and *te-* [with the same meaning] is worth just as much as any comparison one might make between the corresponding pronominal forms in the Indo-European languages. The only difference is that the common origin of the Indo-European languages is accepted, whereas the connection between Indo-European and Finno-Ugric is denied" (p. 44). By mid-century such dissenting views had largely fallen silent.¹

But in the late 1950's two Russian linguists, Vladislav Illich-Svitych and Aron Dolgopolsky—at first independently and unknown to each other—began a new attack on the problem of demonstrating that Indo-European did indeed have relatives. By comparing reconstructed forms from half a dozen different families of North Africa, Europe, and Asia (Afro-Asiatic, Kartvelian, Indo-European, Uralic, Dravidian, Altaic)² these two linguists proposed over 600 etymologies connecting all six of the families in a higher-level family. Some of these etymologies had previously been noted, at least in part, by other linguists, but many were new. Adopting Holger Pedersen's term, this even larger family came to be called Nostratic (Dolgopolsky originally used the name Sibero-European). At the time of Illich-Svitych's tragic death in 1966 none of his etymological studies had yet appeared in print. Through the persistent efforts of his friend and colleague Vladimir Dybo, and with the assistance of Dolgopolsky, the work that Illich-Svitych had completed in manuscript form at the time of his death has now been published (Illich-Svitych 1967, 1971–84). Several articles by Dolgopolsky (1964, 1969, 1971, 1972, 1974, 1984) contain additional Nostratic etymologies. Recently the American linguist Allan Bomhard (1984, 1991) has begun investigating the Nostratic family, employing a set of sound correspondences—based on the Glottalic theory of Indo-European—slightly different from those postulated by Illich-Svitych and Dolgopolsky.

In his classification of New World languages Greenberg assigns the Eskimo-Aleut family to a Eurasiatic stock that also includes Indo-European, Uralic-Yukaghir, Altaic, Korean-Japanese-Ainu, Gilyak, and Chukchi-Kamchatkan,

¹ Commendable exceptions include Karl Menges, Bjorn Collinder, and Nicholas Poppe.

² Dolgopolsky originally included Chukchi-Kamchatkan and Sumerian, but not Kartvelian or Dravidian, in his comparisons.

and in his book on the Eurasiatic family (to appear), he presents over 500 etymologies. As can be seen, the Nostratic and Eurasiatic families overlap. Indo-European, Uralic, Altaic, and Korean belong to both, but the two families differ in that Eurasiatic includes additional groups in East Asia (Japanese, Ainu, Gilyak, Chukchi-Kamchatkan, Eskimo-Aleut), while Nostratic includes not these, but additional groups in Southwest Asia (Dravidian, Kartvelian, Afro-Asiatic). As might be anticipated, there is also considerable overlap in the etymologies supporting these two families.

What are we to make of the different constituencies of the Nostratic and Eurasiatic families? Two different aspects of the question must be clearly distinguished, and the frequent confusing of the two by scholars has led to a certain amount of misunderstanding in discussions of distant relationship. The first is whether the languages within Nostratic, or those within Eurasiatic, have been shown to be genetically related; the second is whether Nostratic and/or Eurasiatic are valid taxa. Concerning the first question, there is really no difference between the Nostraticists' views and those of Greenberg, who readily admits that Kartvelian, Dravidian, and Afro-Asiatic are related to Eurasiatic. The three are not, however, in his view, as *closely* related to the Eurasiatic languages as the Eurasiatic languages are to each other. Thus Eurasiatic might be thought of as a subgroup of an even larger Nostratic stock, and both Eurasiatic and Nostratic might be valid taxa.

But it is also possible that neither Eurasiatic nor Nostratic is a valid taxon. It is possible that Kartvelian should be included in Eurasiatic, with which it shares the characteristic first- and second-person pronouns, *m* and *t/s*. And as regards Nostratic, we can say with certainty that the classical definition of Nostratic—as subsuming the six families enumerated above—is not a valid taxon. This is not surprising, since during the development of Nostratic the choice of the six families was determined in part simply by the availability of reconstructed proto-forms, which eliminated certain families from consideration. In any event, the Nostraticists never intended to exclude the addition of other families to Nostratic as better historical materials became available. In fact, all of Greenberg's eastern extensions have at one time or another been included in the work of Nostraticists. At the western end of Nostratic the situation is less clear, in the sense that certain families, such as Khoisan and Nilo-Saharan, have been excluded from consideration by the Nostraticists primarily because there are no reconstructed proto-forms.

The essential difference, then, between the work of the Nostraticists and that of Greenberg, is that Greenberg, as in all his taxonomic work from Africa to the Americas, has sought to *classify* the world's languages. He has never attempted to prove that *A* is related to *B*; relationships, whether close or distant, are merely the consequences of classification. Nostraticists, on the other

hand, have never been primarily concerned with classification, but rather with the attempt to prove that Indo-European is related to other families. Indeed the Nostratic family is *defined* as consisting of those families that are related to Indo-European. This is not, however, a permissible way to define a taxon on any level, in biology or in linguistics. The stubborn insistence of so many linguists on according Indo-European special status cannot be defended; it is simply one family among many to be classified—nothing more, nothing less.

Another difference between the Nostraticists and the Greenberg camp is that Nostraticists place great emphasis on reconstruction and sound correspondences, which in Greenberg's methodology—and in biological taxonomy—play no essential role (see Chapter 14 herein). Recently some Nostraticists have begun to recognize the importance of classification itself. Thus, Sergei Starostin (1989) now considers Afro-Asiatic related to Nostratic at greater remove, rather than being simply a member of it, and he goes on to say: "I have no reason at all to suppose a closer genetic link between Nostratic and Sino-Caucasian than, e.g., between Nostratic and Afro-Asiatic or Afro-Asiatic and Sino-Caucasian" (p. 49).

So what, then, has all this to do with Amerind? If we combine the work of the Nostraticists with Greenberg's work on Eurasiatic, we have a rich collection of close to 1,000 etymologies defining a vast family of the Old World. And although the edges of that vast family remain somewhat fuzzy, it offers ample evidence to compare with the corresponding data provided for the Amerind family by Greenberg (1987), and thus to identify genetic relationships between Amerind and Nostratic/Eurasiatic.

AMERIND

The long and tumultuous history of the classification of Native American languages is reviewed in Ruhlen (1987: 205–27). For our purposes here it suffices to note that Greenberg (1987) presented evidence that the indigenous languages of the Americas fall into three distinct genetic groups: (1) Eskimo-Aleut, (2) Na-Dene, and (3) Amerind. Since the first two groups had long been recognized and accepted, it was the inclusion of all other aboriginal languages in a single family that set Greenberg's classification apart from previous attempts. Greenberg presented over 2,000 etymologies in support of Amerind and its eleven subfamilies, 329 of which connect at least two subgroups of Amerind. Closer scrutiny of the etymologies defining individual Amerind subgroups (e.g. Penutian, Hokan, Andean) indicates that an additional 160 Amerind etymologies can be discerned in Greenberg's data (see Chapter 8 herein), raising the total number of Amerind etymologies to almost 500. Just as first-person *m* and second-person *t/s* characterize the Eurasiatic family, the

Amerind family is characterized by first-person *n* and second-person *m*, both of which are attested in every Amerind subfamily. In addition, there are lexical items that permeate every nook and cranny of the Amerind family, while being apparently absent elsewhere in the world (see Chapter 9 herein). We might note that Greenberg's classification of New World languages has been greeted with disbelief and incredulity by many Amerindian linguists, just as his African classification provoked controversy among Africanists some four decades ago. For discussion of the current debate on the classification of American languages, see Chapter 6 herein and Greenberg (1989).

Greenberg's tripartite classification of American languages has obvious implications for the peopling of the Americas, for it suggests that there were *at most* three migrations from Asia that have left a trace in the linguistic record. Of course there could have been a single migration, with subsequent diversification into Greenberg's three families, and two migrations is also a theoretical possibility. But in fact the number of distinct migrations can only be determined by the larger—non-American—context. Three distinct migrations can only be supported by showing that each of Greenberg's three New World families is more closely related to an Old World family—and in each case a *different* Old World family—than any two of the New World families are to each other. And indeed this appears to be the case.

The genetic affinity of the Eskimo-Aleut family with languages of Northern Eurasia was already recognized by Rasmus Rask in the early nineteenth century, and since that time numerous scholars have noted the connection, though usually in terms of binary comparisons that made the relationship less apparent than it would be in a multilateral comparison. Greenberg includes Eskimo-Aleut in his Eurasiatic family, and Dolgopolsky (1984) included it in Nostratic. Even the relatively small amount of material I will offer here leaves little doubt that Eskimo-Aleut is an integral part of the Eurasiatic family, and archaeological evidence supports a very recent arrival of the ancestors of Eskimos and Aleuts in the New World.

It is well known that Edward Sapir, in the early part of this century, proposed a genetic affinity between Na-Dene and Sino-Tibetan. On the question of the Na-Dene-Sino-Tibetan relationship Sapir was blunt: "If the morphological and lexical accord which I find on every hand between Na-Dene and Indo-Chinese is 'accidental,' then every analogy on God's earth is an accident. It is all so powerfully cumulative and integrated that when you tumble to one point a lot of others fall into line. I am now so thoroughly accustomed to the idea that it no longer startles me" (quoted in Golla 1984: 374). Recently Campbell (1988: 593) has ridiculed this proposal: "Needless to say, no specialist today embraces this claim." In fact, however, Sapir's proposed connection has recently been supported by both Russian scholars (Starostin

1984, Nikolaev 1991) and American scholars (Bengtson 1991a,b, Ruhlen 1990 and Chapter 4 of this volume); both groups now place Na-Dene in a proposed Dene-Caucasian family that also includes Sino-Tibetan, Yeniseian, and North Caucasian (see Chapter 1 herein). It thus appears that Na-Dene is related to a different Old World language family (Dene-Caucasian) than is Eskimo-Aleut (Eurasian), which implies that each represents a distinct migration from Asia, just as Sapir suspected in 1920: "I do *not* feel that Na-Dene belongs to the other American languages. I feel it as a great intrusive band that has perhaps ruptured an old Eskimo-Wakashan-Algonquian continuity. . . . Do not think me an ass if I am seriously entertaining the notion of an old Indo-Chinese offshoot into N.W. America" (Golla 1984: 350).

So what, then, of Amerind? It is the aim of this chapter to provide linguistic evidence that the Amerind family reflects a third migration from the Old World, almost certainly the first of the three. This evidence concludes the chapter, and the etymologies assembled there indicate that the Amerind family is more closely related to the Eurasian/Nostratic family in the Old World than to any other Old World family. But whereas Eskimo-Aleut is a *member* of Eurasian, Amerind is simply *related* to Eurasian, at greater remove, and Na-Dene belongs to a different family altogether, Dene-Caucasian.

In light of the now substantial archaeological, biological, and linguistic evidence, the following scenario for the peopling of the Americas seems most likely. The initial migration into the New World, some time before 12,000 BP (before present), gave rise to the Amerind family, whose vast geographic spread and great linguistic diversity are indicative of its early arrival. Just how early that arrival may have been is a bone of contention among archaeologists. Many maintain that humans did not reach the Americas until the Clovis culture appears in the archaeological record around 12,000 years ago, and they dismiss alleged earlier dates as spurious. There are, however, other archaeologists who claim to have evidence of earlier human habitation in the Americas, with dates ranging from 13,000 BP (the Monte Verde site in Chile), to 16,000 BP (the Meadowcroft site in Pennsylvania) to over 40,000 BP (the Pedra Furada site in Brazil). I tend to share the views recently expressed by Jared Diamond (1992: 345): "How could people have gotten from Alaska to Pennsylvania or Chile, as if by helicopter, without leaving good evidence of their presence in all the intervening territory? For these reasons, I find it more plausible that the dates given for Meadowcroft and Monte Verde are somehow wrong than that they are correct. The Clovis-first interpretation makes good sense; the pre-Clovis interpretation just doesn't make sense to me." Unfortunately, linguistic evidence, which is notoriously poor at providing absolute dates, cannot resolve this controversy. Nor, so far, have studies of blood types, gene pools, and such.

The precise date of the second migration is also uncertain, but we might estimate 7,000 BP for the migration that brought the Na-Dene family into the Americas. Finally, perhaps 4,000 years ago, a third migration gave rise to the Eskimo-Aleut family, whose lesser linguistic divergence and marginal position on the Northern periphery of the Americas both indicate late arrival.

DISTANT RELATIONSHIP

Over the years there has been no shortage of attempts to find genetic links between New and Old World languages. The vast majority of such attempts have suffered from a fatal flaw: they invariably sought to show that some specific language (or language family) in the New World was related to some language (or language family) in the Old World. For example, Karl Bouda (1960–64) tried to show that Quechua (South America) was related to Tungus (East Asia). Such binary comparisons, usually chosen by happenstance, have been the bane of long-range comparison. There is very little likelihood that a language spoken in one part of the world is *directly* related to some language spoken on the other side of the world. Tungus is clearly most closely related to the other Altaic languages, which in turn are but one subfamily of Nostratic/Eurasiatic. Quechua, on the other hand, is just as obviously most closely related to other Andean languages in South America, which themselves form but one branch of the vast Amerind family. So to compare one member of Nostratic/Eurasiatic with one member of Amerind, ignoring the evidence of other, more closely related languages on each side of the equation, is methodologically unsound and can hardly be expected to provide useful results. Nonetheless, in the United States, in recent decades, such ad hoc binary comparisons became a substitute for classification, and serious taxonomic work ground to a halt.

But for those who sought Old World relatives for American Indian languages, there was at the time no way out of the dilemma, since the basic classificatory work had simply not yet been done on American languages. And in the Old World, prior to the rise of the Russian Nostratic school, most comparisons between Old World families were themselves more often than not of a binary nature. Greenberg's classification of American languages, with hundreds of etymologies defining the vast Amerind family, has for the first time provided the wherewithal for comparisons with similar material from Old World language families to which Amerind might in fact be directly related. In the same way, Nostratic and Eurasiatic etymologies define a comparable family in the Old World, providing the wherewithal for the other half of the comparison.

There is of course no *a priori* reason why the Amerind family should be genetically closer to Nostratic/Eurasiatic than to some other Old World group. Where the relationships fall, in the scheme of things, is strictly an empirical question, to be decided by comparative research. Nor have I chosen to compare Amerind with Nostratic/Eurasiatic simply because the detailed materials on the two are now available. Rather, a comprehensive comparison of these two families with the world's other language families has led me to conclude that the vast Amerind family is genetically closest to Nostratic/Eurasiatic, among all of the world's families. Though I consider it unlikely, it is of course possible that future research will find that Amerind is closer to some other Old World family. And I recognize that the still higher-level family comprising Nostratic/Eurasiatic and Amerind languages is genetically related to *other* high-level language families. Some of the evidence of these further genetic connections is given in Chapter 14 herein, and Starostin (1989) presents convincing evidence linking Nostratic and Dene-Caucasian.

Though the problems at this level of classification are formally the same as those of classifying languages at the lowest level, they are often treated as if they were somehow different. The point is not merely to show that *A* is related to *B*, but rather to specify the *degrees* of relationship among all relevant language families (*A, B, C, . . .*) in the form of a hierarchy of relationships that is customarily represented by a tree diagram. Trees of this sort are of course just what zoologists and botanists have been constructing and reconstructing for centuries.

One other scholar whose interhemispheric comparisons did not suffer from the fatal flaw of binary comparison was Morris Swadesh. Following the earlier pioneering efforts of Alfredo Trombetti (1905), Swadesh sought to show that all the world's languages are related in one large family. "On Interhemispheric Linguistic Connections" (1960) is perhaps his most explicit presentation of evidence connecting Old World and New World languages. He wrote there, for example, that "recent research seems to show that the great bulk of American languages form a single genetic phylum going far back in time. . . . Eskimo-Aleutian and Nadenean seem to stand apart, and may therefore represent later waves of migration" (p. 896). Some of the etymologies I will present below overlap with some of Swadesh's, and I recognize that his case for interhemispheric connections was not without merit. Nevertheless, many of his etymologies are not convincing, and frequently even his valid etymologies contain many forms that I believe are spurious. In my opinion, Swadesh permitted excessive semantic liberty in his etymologies—the etymologies given below, I believe, are more tightly constrained, both semantically and phonologically—and in his later work he seemed to lose sight of the importance of a hierarchical classification, preferring instead a less explicit global network. This is not to

minimize his contribution, for he himself recognized that "all published theories of interhemisphere relations, along with the present one, are not yet adequately supported, but they reaffirm the need for, and perhaps show the feasibility of, this kind of study. In time we will surely see satisfactory proof of these or other theories of interhemisphere linguistic relations" (pp. 895-96). It is my hope that the materials presented here will take us one step further along the path that Swadesh pioneered.

BIOLOGICAL AND LINGUISTIC CLASSIFICATIONS

If the genetic isolation of Indo-European is no more than a cherished myth of contemporary linguistics, the notion that biological and linguistic classifications of the human population show little correlation is another. As Campbell (1986: 488) puts it, "repetition of the obvious seems required: there is no deterministic connection between language and gene pools or culture." Recently, however, biologists studying the structure of the human population on the basis of genetic markers have discovered that there is in fact a very high degree of correlation between biological and linguistic classifications, confirming Trombetti's observation at the beginning of this century that "agreement between language and race is the rule. Disagreement is the exception" (Trombetti 1905: 55).

During the past decade Trombetti's insight has been rediscovered by a number of human biologists (see Chapter 1 herein). For the Americas the correlation between language and genes has proved to be remarkably and unexpectedly close. A year before the publication of *Language in the Americas*, Greenberg, Christy Turner, and Stephen Zegura (1986) discovered that classifications of Native Americans based on either dental traits or genetic traits (such as blood groups) both arrive at the same tripartite classification proposed by Greenberg on the basis of language. A similar conclusion was reached by Luca Cavalli-Sforza and colleagues (1988, 1994), who, in the most detailed study to date of human genetics among aboriginal American populations, found that Native Americans fall into precisely Greenberg's three families. Furthermore, the Cavalli-Sforza group found that the population that appears closest to Amerind (disregarding Na-Dene, whose biological closeness to Amerind is probably due to millennia of admixture) is the population that is spread across northern Eurasia, the group known linguistically as Eurasiatic or Nostratic: "A link of Nostratic with Amerind . . . was recently suggested by Shevoroshkin. It is most striking that the union of Eurasiatic and Nostratic, with the Amerind extension, includes all, and only, the languages spoken in our major Northeurasian cluster, with the exception of Na-Dene, the origin of which is less clear" (Cavalli-Sforza et al. 1988: 6005). It is for this

vast grouping—stretching all the way from northern Africa, across Eurasia, and throughout both North and South America—that linguistic evidence of affinity is adduced in the present chapter.

Biologists have long recognized the fundamental importance of classification as a means of providing diachronic insight. As Stephen Jay Gould (1989) recently put it, “the reconstruction of the human family tree—its branching order, its timing, and its geography—may be within our grasp. Since this tree is the basic datum of history, hardly anything in intellectual life could be more important” (p. 22). Many linguists, on the other hand, have developed the quaint notion that the only use for classification is in reconstruction and the discovery of regular sound correspondences. As Sarah Thomason (to appear) has put it: “If we want to say, with Greenberg, that demonstrating genetic relationship does not require showing that reconstruction is possible, then I think it’s appropriate to ask what the purpose of our classification is. If it is merely a way of bringing some order into a long list of languages . . . , then historical linguists will have no quarrel with the enterprise as long as it’s not called genetic classification.” Theodora Bynon (1977: 272) renders a similar assessment of Greenberg’s methods: “It is clear that, as far as the historical linguist is concerned, it [multilateral comparison] can in no way serve as a substitute for reconstruction, for to him the mere fact of relationship is of little interest in itself.” Though such views are not unusual among linguists, it would be difficult, if not impossible, to find a biologist who would subscribe to them.

NOSTRATIC/EURASIATIC-AMERIND ETYMOLOGIES

There is no *a priori* reason why Nostratic/Eurasiatic and Amerind should share numerous and detailed similarities. Indeed, were it true, as many linguists believe, that evidence of genetic affinity disappears through constant phonetic and semantic erosion after just 6,000 years, then there should be no similar roots at all between Nostratic/Eurasiatic and Amerind—whose time of separation must be considerably greater than 12,000 years—save those arising from sheer accident. I believe that the detailed similarities presented below, frequently so precise as to exhibit the same glottalized consonant in the root in both Nostratic and Amerind, can only be the result of common origin. Such intimate analogies cannot realistically be ascribed to anything else.

In the following etymologies the general order, from one etymology to the next, is alphabetical either by Nostratic reconstruction (e.g. **bālA* in No. 3), or, where the Nostratic reconstruction is lacking, by a Eurasiatic phonetic gloss of my own creation (e.g. **aka* in No. 1). In each etymology the Nostratic or Eurasiatic forms are listed first, followed by the Amerind forms. Within

the Nostratic-Eurasiatic complex the ordering of the constituent subfamilies generally proceeds from west to east, while the Amerind subfamilies generally follow a north-south progression. Sources of the information are given in brackets at the ends of the etymologies, with the Nostratic, Eurasiatic, and Amerind sources separated by a semicolon. For Nostratic (N), one will find either the etymology number from the Nostratic dictionary (N 232), the page number in Volume 1, where many unnumbered etymologies are given (N I:7), or the page number in Illich-Svitych's 1967 article (IS 335). For the Eurasiatic (E) etymologies, drawn from Greenberg (to appear), either the number of the grammar section (E G15) or the semantic gloss (E SPEAK) is given. For Amerind (A), drawn chiefly from Greenberg (1981, 1987), the etymology number (A 218, MP 30) or the number of the grammar section (A G12) is cited. The following abbreviations are used to identify the relevant sections of Greenberg's book: AK: Almosan-Keresiouan, P: Penutian, H: Hokan, CA: Central Amerind, CP: Chibchan-Paezan, AN: Andean, EQ: Equatorial, MT: Macro-Tucanoan, MC: Macro-Carib, MP: Macro-Panoan, MG: Macro-Ge. In addition to the Amerind forms cited in Greenberg's book, I have added many additional Amerind forms from Greenberg's unpublished Amerind notebooks (Greenberg 1981).

1. EURASIATIC **aka* 'older brother,' Yukaghir *aka* 'older brother,' Proto-Turkic **āka* 'older brother,' Mongolian *aga* 'older brother,' Tungus *akā* 'brother,' Ryukyuan *aka* 'older brother,' Ainu *ak/aki* 'younger brother,' Gilyak *ikin* 'older brother' = AMERIND *(*k*)*aka* 'older brother, older sister,' Nisqualli *kukh* 'older brother,' Okanagan *kika* 'older sister,' Shuswap *kix* 'older sister,' Kalispel *qaṣe* 'maternal aunt,' Kutenai *kokt* 'maternal aunt,' Seneca *-hak* 'aunt,' Tuscarora *gus-xahg* 'paternal aunt,' Adai *ahhi* 'aunt,' Hidatsa *ika* 'aunt,' Alsea *hāʔt* 'older brother,' Bodega Miwok *kaaka* 'uncle,' Southern Sierra Miwok *kaka* 'uncle,' Yuki *kik-an* 'maternal uncle,' Tfalatik *kaka* 'aunt,' Zuni *kaka* 'maternal uncle,' Natchez *kāka* 'older brother,' Mixe *ahč* 'older brother,' Sayula *axč* 'older brother, uncle,' Kekchí *as* 'older brother,' Zoque *ʔatʂi* 'older brother,' Totonac *kuku* 'uncle,' Achomawi *kex* 'uncle,' East Pomo *kēq* 'uncle,' North Pomo *-ki-* 'older brother,' Kashaya *-ki-* 'older brother,' Salinan *kaai* 'older brother,' Karok *xukam* 'uncle,' Jicaque *kokam* 'uncle,' Tewa *koʔo* 'aunt,' Varohio *kukuri* 'paternal uncle,' *ka'ká* 'maternal aunt,' Ixcatec *kwaʔa* 'aunt,' Tirub *kega* 'uncle,' *kak* 'aunt,' Matagalpa *kuku-ke* 'uncle,' Paya *uku* 'uncle,' Kagaba *kukui* 'aunt, niece,' Ona *kakan* 'paternal aunt,' Yeba *kako* 'uncle,' Masaca *kokomai* 'uncle,' Waraicu *ghuk* 'uncle,' Manao *ghooko* 'maternal uncle,' Sammaika *koko* 'uncle,' Mashco *kokoa* 'uncle,' Kushichineri *koko* 'uncle,' Cuniba *kuku* 'uncle,' Bare *koko* 'aunt,' Canamarim *ghughu* 'un-

cle,' Piro *koko* 'uncle,' Apiaca *koko* 'uncle,' Bakairi *kxuryu* 'uncle,' Pimenteira *kuckú* 'uncle,' Cavineña *ekoko* 'uncle,' Panobo *kuka* 'uncle,' Pacawara *kuko* 'uncle,' Palmas *kēke-* 'older sibling,' Apucarana *kanki* 'older brother,' Oti *koaka* 'brother.' [E BROTHER; A 178, P 31, H 54]

2. EURASIATIC **ana* 'mother, grandmother, old woman,' Proto-Indo-European **an-* 'grandmother, mother,' Hittite *annas* 'mother,' *ḫannas* 'grandmother,' Lycian *xāna* 'grandmother,' Armenian *han* 'grandmother,' Proto-Turkic **ānā* 'mother,' Tungus *ēñi/ēñē* 'mother,' Korean *ēñi* 'mother,' Yupik *aana* 'mother,' Labrador *anāna* 'mother,' Greenlandic *ānak* 'grandmother' = AMERIND **nani* 'mother, aunt,' Blackfoot *naʔa* 'mother,' Gros Ventre *-inā* 'mother,' Caddo *?inaʔ* 'my mother,' Huron *anan* 'aunt,' Osage *ina* 'aunt,' Proto-Oto-Manguean *(n)(ʔ)na(h)(n) 'mother, woman,' Proto-Uto-Aztecan **na* 'mother,' Catuquina *inai* 'aunt,' Kaliana *īnoī* 'grandmother,' Puinave *aiña* 'aunt,' Ticuna *niai* 'woman,' Yuri *aino* 'female,' Guahibo *ena* 'mother,' Kariri *aña* 'aunt,' Kandoshi *aniari* 'mother,' Proto-Tacanan **nene* 'aunt,' Macca *nana* 'mother,' Vilela *enana* 'aunt,' *nane* 'mother.' [E GRANDMOTHER & MOTHER; A 14, MP 46]

3. NOSTRATIC **bālā* 'light,' Proto-Afro-Asiatic **bl-* 'light, shine,' Proto-Indo-European **bhel-* 'white, light,' Proto-Altaic **bāli* 'light, pale' = AMERIND **pala* 'white,' Yakonan *λpāal-* 'white,' Lutuami *palpal* 'white,' Mixe *pōʔp* 'white,' Zoque *popo* 'white,' Washo *dal-popoi* 'white,' Santa Cruz Chumash *pupu* 'white,' Qawashqar *palihhl* 'white,' Canichana *bala/bara* 'white,' Chiranga *bole* 'white,' Särä *boro* 'white,' Catuquina *parany* 'white,' Bare *balini* 'white,' Wapishana *barak* 'white,' Yuracare *bolo-* 'white,' Chamacoco *poro* 'white,' Cayuvava *-pora-* 'white,' Turaha *pōrā* 'white,' Achagua *paray* 'white,' Towothli *apol-* 'white,' Vilela *po* 'white,' Vejoz *pelaj* 'white,' Lule *pop* 'white.' [IS 363; A 266]

4. NOSTRATIC **bīša* 'bile,' Proto-Indo-European **bis-(t)lā* 'bile,' Proto-Uralic **pyša* 'bile, yellow, green' = AMERIND **patʰi* 'liver,' Proto-Algonquian **wīswi* 'gall,' Montagnais *uiši-* 'bitter,' Hidatsa *apiša* 'liver,' Wichita *wass* 'bitter,' Crow *išā* 'bitter,' Yuchi *w'asdá* 'sour' (v.), Cherokee *uyəsdi* 'bitter,' Nez Perce *pisakas* 'bitter,' Atakapa *añpats* 'sour,' Atsugewi *ōpsi* 'liver,' Karok *vafis* 'liver,' Shasta *?ēpsiʔ* 'liver,' Mohave *hipasa* 'liver,' Cocopa *č-ipošo* 'liver,' Akwa'ala *čuposi* 'liver,' Rama *i-psa* 'liver,' Cuitlatec *bahči* 'sour,' Paez *pos* 'sour,' Guajiquero *pasa* 'bitter,' Manare *pasi-gui* 'sweet' (-*gui* = 'not'), Guambiana *patʰe* 'liver,' Cayapa *basu* 'human liver,' Chimu *počak* 'liver,' Zaparo *hipatʰka* 'gall,' Yamana *hīpa* 'liver,' Quechua *p'ošqo* 'sour,' Nadobo *bōčihign* 'sour,' Yuracare *ipasa* 'liver,' Candoshi *šipič* 'liver,' Caranga *paxč* 'liver,' Proto-Tacanan **patʰe* 'bitter,' Tacana *patʰeda* 'bitter,' Huarayo *pase* 'bitter,' Moseten *bitʰtʰa* 'bitter,' Chiquito *piča-ka-s* 'bitter.' [IS 340; A 35 & 168, MP 58]

5. NOSTRATIC *č'ik'λ 'cut,' Proto-Kartvelian *č'ec'k' 'cut (finely),' Proto-Altaic *čikλ- 'cut, chop,' Evenki čikā- 'cut, chop,' Even čiki- 'chop' = AMERIND *t'ik'^{wa}/^{*t'ak'}wi 'hit, cut, break,' Proto-Salish *t'aq'^w 'break,' Snohomish t^saq' 'hit,' Lillooet t^sikən 'beat, whip,' Seshault t^siq'^{wət} 'hit,' Shuswap t^sikən 'hit,' Squamish t'əq'^w 'break,' Nootka t^soq'^w 'hit,' Quileute t^sex 'hit,' Kutenai t'ik' 'destroy,' Proto-Central Algonquian *šākw- 'break,' Kowilth tik 'cut through,' Yurok tik'^{wohs} 'break, cut,' Wichita tīk'^{wi}/tak'^{wi} 'hit,' Ofo diki 'hit,' Tsimshian t'ā? 'slap,' Chinook t'āk ~ tsəx 'break,' North Sahaptin šax 'cut through,' Coos tōh 'hit,' Wappo t'ak'i? 'cut,' Mixe tsuk 'cut,' Sayula tsuk 'cut,' Huastec t'ak'iyal 'cut,' Proto-Mayan *sak 'hit,' Quiché t^sax 'hit,' Jalcaltéc tsok'o 'chop,' Shasta k^wannitīk 'he chopped it,' East Pomo t'es 'cut off,' Salinan šāko 'chop,' Maricopa t^sik'ⁱet 'cut,' Jicaque t'i- 'cut,' Hopi tīiki 'cut,' Nahua -teki 'cut,' Pipil tegi 'cut,' Zacapoaxtla teki 'cut,' Tewa t^sā? 'sever with a knife,' Popoloca t'īce 'break,' Cuna čike 'cut,' Move tikeko 'cut,' Sanema tiiksaki 'a blow,' Yamana ačikam 'cut,' Ticuna tīcei 'cut,' Cofan čičiku 'knife,' Cocoma tsaki-ta 'cut,' Paumari siiki 'cut.' [IS 361, N 55; A 149, AK 31, P 110, AN 37]

6. NOSTRATIC *da (locative), Proto-Afro-Asiatic *d (locative), Proto-Kartvelian *-da (allative), Proto-Indo-European *-D/-eD (ablative), Proto-Dravidian *-tt/-tt(λ) (locative, ablative), Proto-Uralic *-δa/-δā (ablative), Yukaghir -da (locative), Proto-Altaic *-da (locative), Korean it-te 'now' (= demonstrative + locative), te 'place,' Japanese -ta (locative), Ainu -ta/-te (locative), Koryak ti-te 'when,' Aliutor ti-ta 'when' = AMERIND *te ~ *ta (locative), Maidu di 'in,' Klamath di 'place of,' Catio -de (locative), Move -te 'in,' Lule ta- 'through, in.' [N 59; E G32; A G49]

7. NOSTRATIC *gāt'i/kāčλ 'hand,' Proto-Afro-Asiatic *kt 'hand,' Proto-Western Cushitic *kč 'hand,' Proto-Indo-European *gheś- 'hand,' Proto-Uralic *kāte 'hand,' Proto-Dravidian *kac- 'hand,' Korean kaci (< kati) 'branch, bough,' Kamchadal hk'ec 'hand' = AMERIND *kit^se/kut^se 'hand,' Blackfoot -kit^s 'finger,' Wiyot kisan 'finger,' ?Yurok -ketew 'little finger,' Nootka qāt^s 'give present,' Squamish čis 'hand,' Lower Fraser aqus 'give,' Kalispel x^wit^s 'give,' Pawnee skitsik 'finger,' Wichita iškitsa 'finger,' Tutelo -ksa 'hand,' Chinook ōkši 'finger,' Wishram wa-kšən 'finger,' Natchez kus 'give,' Quiché koč 'gift,' Shasta akhusik 'finger,' Santa Ynez Chumash ikš 'give,' Santa Barbara Chumash xiks 'give,' Penomeño kuse ~ kise 'hand,' Norteño kuse 'hand,' Move kusegra 'finger,' Borunca i-kūs(-kwa) 'finger, hand,' Kagaba guaša 'give,' Paez kuse 'hand, finger,' Ayoman a-kosi-kega 'finger,' Panikita kuse 'hand,' Moguex koze 'hand,' Beto ru-m-okosi 'hand,' Qawashqar kisiaol 'give me!,' Andoa ku-agwaši 'hand,' Coche kukuač 'hand,' Chipaya k'as 'give me!,' Kokoz toai-ikisu 'hand,' Anunze ua-kize 'hand,' Tauite toai-kize 'hand,' Suya nikasi 'finger,' Oti ikese 'finger,' Erikbatsa kašuisa 'hand.' [IS 362, N 80; E HAND₂; AK 93, P 89, CP 92]

8. NOSTRATIC **goHjA* 'sunlight, dawn,' Proto-Indo-European *(s)*kāi* 'clear, light,' Proto-Uralic **kojA* 'dawn, sun,' Yakut *kujaš* 'dawn,' Mongolian *gei* 'shine,' Dagur *gei* 'become light,' Oroq *gewa* 'dawn,' Korean *hay* 'sun,' Japanese *-ka* 'day,' Ainu *ko* 'day,' Gilyak *ku* 'day,' Chukchi *kivkiv* 'day,' Inuit *qau* 'day, daylight' = AMERIND **q^wai* 'sun, day, dawn, daylight,' Kwakwaka *q^wəʔla* 'be bright,' Chemakum *qal-* 'sun,' Nootsack *sk^wayl* 'day,' Upper Chehalis *-q^w* 'day,' Lkungen *sq^wəq^wə* 'sun,' Snohomish *qəq* 'sunshine,' Yurok *kekeʔy-* 'shine,' Seneca *kē-hkwā* 'sun, moon,' Cherokee *iga* 'day, light,' Yuchi *aga* 'day, east,' Siuslaw *qai* 'dawn' (v.), Yakonan *qai* 'be light,' Coos *k^wiʔi-s* 'light,' North Sahaptin *quix* 'dawn, light,' Maidu *ʔeki* 'day,' San Juan Bautista Costanoan *ake* 'day,' Proto-Mayan **q^ʔix^j* 'day, sun,' Mam *kih* 'sun, day,' Ixil *k^ʔix* 'day,' Kakchiquel *q^ʔih* 'day,' Quiché *q^ʔih* 'sun, day,' Seri *kkwāaʔ-ka* 'light,' Comecrudo *xi* 'light,' Tlappanec *ā'kaʔ* 'sun,' Kiowa *k^{hi}H* 'day,' Tewa *ki* 'be daylight,' Isleta *koʔ* 'light,' Chatina *quih* 'light,' Trique *gwi* 'sun, day,' Isthmus Zapotec *gui* 'light,' Mazatec *t^sui* 'sun,' Norteño *kowe* 'day,' Binticua *gei* 'light,' Guamaca *kuaka* 'shine,' Borunca *kak* 'sun,' Paez *kwikkwi* 'light, be light,' Andaqui *kaki* 'sun,' Jebero *kōki* 'sun,' Cahuapana *kogua* 'sun,' Ticuna *iake* 'sun,' Kapishana *kuikae* 'sun,' Dzubucua *ukie* 'day, sun,' Uru *uxi* 'light,' Goajiro *kaʔi* 'sun,' Muinane *kúuxé* 'day,' Jaricuna *xi* 'sun,' Taruma *hwa* 'sun.' [IS 342, N 85; E DAWN, DAY₁ & LIGHT₃; P 145]

- Many of the forms appear to show reduplication of the stem.

9. NOSTRATIC **gura* 'swallow, throat,' Proto-Afro-Asiatic **g(w)r* 'swallow, throat,' Proto-Kartvelian **q^ʔorq⁻* 'throat,' Proto-Indo-European **g^wer(H)-* 'swallow,' Proto-Uralic **kürke* 'throat,' Proto-Dravidian **kura-* 'throat, voice,' Proto-Altaic **gürä* 'neck,' Korean *kālki* 'mane,' Gilyak *qorqr* 'throat' = AMERIND **k^ʔora* 'neck,' ?Yurok *ʔekeʔr* 'necklace,' Yuchi *k^ʔo* 'throat,' Proto-Maiduan **k^ʔuji* 'neck,' Proto-Muskogean **kwalak* 'swallow,' Chitimacha *k^ʔe* 'neck,' Atakapa *kol ~ kul* 'swallow,' Proto-Mayan **qul* 'neck,' Quiché *qul* 'neck, throat,' Uspantec *k^ʔul* 'neck,' ?Achomawi *hállōq* 'neck,' Isleta *k^ʔôa* 'neck,' Kiowa *k^ʔou-l* 'neck,' Proto-Uto-Aztecan **ku* 'neck,' Southern Paiute *qura* 'neck,' Tübatulabal *kulā* 'neck,' Atanque *göla* 'neck,' Binticua *güergüero* 'neck,' Guatuso *kolosi* 'neck,' Warrau *korá* 'swallow,' Catio *okarra* 'throat,' Macu *tse-kolo* 'throat,' Esmeralda *kola* 'neck,' Uro *k^ʔora* 'neck,' Caranga *k^ʔora* 'throat,' Emerillon *e-kurukawe* 'throat,' Yaruro *goro* 'neck,' Zamuco *potogoro* 'throat,' Bare *nu-kurateka* 'throat,' Galibi *kororo* 'neck,' Bakairi *kiu-γoro-l* 'throat.' [IS 335, N 91; E THROAT₂; A 196, EQ 114]

10. NOSTRATIC **ɣama* 'darkness, night,' Proto-Afro-Asiatic **ǵm* 'dark,' Arabic *ǵammā* 'darkness,' Proto-Kartvelian **ɣam-(e)* 'night,' Georgian *ɣame* 'night,' Chan *ɣoma(n)* 'yesterday,' Megrelian *ɣuma* 'last night' = AMERIND **xama* 'night, dark, black,' Bodega Miwok *ʔume* 'evening,' Lake Miwok *ʔúme* 'night,' Chitimacha *zima* 'night,' Chontal *umi* 'black,' Karankawa *ma* 'black,'

Chimariko *hime* 'night,' San Luis Obispo Chumash *č-xime* 'night,' Yurumangui *mai-sa* 'night,' Mazatec *hma* 'black,' Mazahua *xômü* 'night,' Warrau *ima-jana* 'night, dark,' Allentiac *hom-hom-niag* 'black,' Itonama *yumani* 'night,' Guambiana *yem* 'night,' Warrau *ima* 'night,' Matanawi *yamāru* 'night,' Colorado *āma* 'shadow,' Manekenkn *mai* 'black,' Pehuelche *yema* 'black,' Siona *aījammas* 'black,' Yahuna *yamia* 'night,' Cubeo *yami* 'night,' Tsöla *yami* 'night,' Tucano *yami* 'night,' Waikina *yami* 'night,' Wanana *yami* 'night,' Movima *imai* 'night,' Itene *mana* 'night,' Arikem *emα* 'black,' Bakairi *yama* 'become dark,' Moseten *iomo* 'night,' *yomoi* 'spend the night,' Proto-Panoan **jamī* 'night,' Panobo *yamuo* 'night,' Shipibo *yamui* 'night,' Arazaire *yamuiki* 'night,' Botocudo *him(e)* 'dark, black,' Chavante *maia* 'night,' Camacan *hamani* 'night.' [IS 368, N 99; A 197, H 15, MG 12]

11. NOSTRATIC **Hok'Λ/HuK'a* 'eye, see,' Proto-Indo-European **h^wek^w-/ok^w-* 'eye, see,' Proto-Dravidian **akΛ* 'understand, know,' Proto-Altaic **uka* 'notice, understand' = AMERIND **ʔuk'a ~ *ʔik'a* 'eye, see,' Cheyenne *-exa* 'eyed,' *maʔ-exa* 'eye,' Cherokee *ha-ga-ta* 'look,' Seneca *-kā* 'eye,' *kē* 'see,' Tuscarora *-ghoh-* 'eye,' Yuchi *k'a* 'watch,' Santa Ana Keres *ga* 'look,' Hidatsa *ika* 'see, look,' Crow *ikya* 'look,' Nass *gāa* 'see,' Yokuts *ʔek'a* 'see,' Yaudanchi *ōka* 'see,' Atsugewi *iʔʔi* 'look,' Washo *iki* 'see,' Havasupai *ʔūka* 'see,' Walapai *ʔūk* 'see,' Yurumangui *-ikui-* 'see,' Tarascan *exe-ni* 'look, see,' Terraba *ik* 'see,' Changuena *uku* 'eye,' Chumulu *oko* 'eye,' Norteño *okua* 'eye,' Move *ogua* 'eye,' Paya *guā* 'eye,' Colorado *kaka* 'eye,' Catio *akai* 'see,' Quechua *qā* 'see,' Mapudungu *ghe* 'eye,' Pehuenche *ge* 'eye,' Parawa *iku* 'eye,' Capishana *i-kī* 'eye,' Maku *ku* 'see,' Proto-Nambikwara **eika* 'eye,' Guahibo *eka* 'look,' Ipurina *n-oke* 'eye,' Taruma *gugwa* 'watch,' Ocaina *xā* 'see,' Kokoz *toai-ikiki-su* 'eye,' Bororo *yoko* 'my eye.' [IS 333, N 118; AK 163, MT 36]

12. NOSTRATIC **jamΛ* 'water, sea,' Proto-Afro-Asiatic **jam* 'water, sea,' Proto-Uralic **jamΛ* 'sea,' Proto-Dravidian **am(m)* 'water' = AMERIND **jume* 'water,' Nootsack *huem* 'water,' Cherokee *ama* 'water,' Laurentian *ame* 'water,' Wyandot *amē* 'water,' Wappo *méy* 'water,' Zuni *ām* 'drink,' Atsugewi *jume* 'river,' Achomawi *ajūmā* 'river,' San Buenaventura Chumash *ma* 'river,' Esselen *imi-la* 'sea,' Washo *ime* 'drink,' Tonkawa *yōmʔa* 'rain,' Coahuilteco *xama* 'wet,' *yaman* 'drink,' Cuitlatec *ʔumΛ* 'water,' Yurumangui *č-uma* 'drink,' Tewa *ʔomū* 'wet,' Chinantec *jmē* 'rain,' Ixcatec *ʔuhme* 'wash,' Tarascan *-ma-* (action in water), Cabecar *mo* 'rain,' Shiriana *mau* 'water,' Jaqaru *uma* 'water, drink,' Aymara *uma* 'water, drink,' Zaparo *moo* 'water,' Colan *amum* 'sea,' Cholona *omium* 'wave,' Macu *mi* 'drink,' Curiariai *mō* 'lake,' Waikina *maa* 'river,' Uasona *ma* 'river,' Querari *mā* 'water,' *uēmē* 'river,' Proto-Nambikwara **hamšī* 'rain,' Aguaruna *jumi* 'water, rain,' *um-* 'drink,' Yuracare *jumijumi* 'rain,' Guamo *jum* 'lake,' Shuara *umu-* 'drink,' *yumi* 'rain,' Guahibo *ema* 'rain,' Tuyoneri *meei* 'water,' *ja-mai* 'drink,' Achual *yumi* 'wa-

ter,' Gualaquiza *yumi* 'water,' Guarani *ama* 'rain,' Yukuna *oño* 'river,' Pilaga *yum* 'drink,' Toba-Guazu *yom* 'drink,' Komlek *yomyi* 'drink,' Vilela *ma* 'water,' Botocudo *himo-hum* 'wash,' *muniä* 'water, rain.' [IS 349, N 144; A 89, CP 211, AN 97, EQ 125]

13. NOSTRATIC **k'äcä* 'cut, break,' Proto-Afro-Asiatic **qs* 'cut, beat, break,' Proto-Kartvelian **k'ac*₁- 'cut, chop,' Svan *k'č*- 'chop,' Proto-Indo-European **kes*- 'cut,' Proto-Uralic **käcä/kecä* 'knife, edge, point,' Proto-Dravidian **kacc*- 'bite, sting,' Proto-Altaic **k'äsä*- 'cut' = AMERIND **k'at*^s_i 'cut, break,' Proto-Central Algonquian **kišk*- 'cut through, sever,' Quileute *k'i* 'cut,' Tutelo *kitse*- 'break,' Santee *ksa* 'break,' Wichita *ʔikatski* 'cut off,' Dakota *kašda* 'cut off,' Biloxi *utkusi* 'cut,' Pawnee *akakat^sk'* 'cut,' Nez Perce *kas* 'cut,' Nomlaki *kači* 'slice,' Patwin *k'osa* 'knife,' Central Sierra Miwok *kiče* 'arrowhead,' Natchez *kets* 'cut,' Koasati *kös* 'cut,' Wappo *k'eše* 'cut,' *lil-kus* 'knife,' Huchnom *wai-kūci* 'knife,' Creek *koče* 'break,' Tzotzil *k'as* 'break,' Yana *kaʔča* 'knife,' Kashaya *kača* 'knife,' East Pomo *katsa* 'knife,' Seri *kišix* 'cut,' Cochimi *čisili* 'knife,' Tonkawa *kesʔat^se* 'be broken,' Karankawa *kusila* 'knife,' Papago *hikut^si* 'cut,' Zapotec *kuča* 'break sticks,' Ixcatec *ʔuč^he* 'break,' Miskito *kisuru* 'knife,' Quechua *k^huču* 'cut,' Aymara *k^huču* 'cut,' Ticuna *kiči* 'knife,' Movima *kačiru* 'knife,' Taparita *gače* 'cut,' Chamacoco *kēcērēha* 'knife' (cf. Palmella *rexe* 'knife'), Guahibo *kučiaba* 'knife,' Guajajara *kit^si* 'cut,' Oyampi *kəsi* 'cut,' Kamayura *kiči* 'cut,' Siriono *kise* 'cut,' Guarani *kiče* 'knife,' Cocoma *kiči* 'knife,' Maue *kese* 'knife,' Mundurucu *kise* 'knife,' Caranga *k^sač*- 'cut,' Yagua *kiči* 'knife,' Fulnio *k^heči* 'divide,' Camican *keča* 'knife,' Kaingang *kiče* 'knife.' [N 196; A 49, MP 20, MG 70]

14. NOSTRATIC **k'acä* 'man, youth,' Proto-Kartvelian **k'ac*₁- 'man, youth,' Proto-Uralic **kačä* 'youth, man' = AMERIND **k'aci* 'boy, child,' Proto-Salish **qet^sk* 'older brother,' Lillooet *käčih* 'older brother,' Siletz *suq^seʔs* 'older brother,' Kalispel *qet^sč* 'older brother,' Kutenai *qask'o* 'male,' Chemakum *kat^sa-pat* 'girl,' Proto-Algonquian **ne-kwiʔsa* 'my son,' Ojibwa *nen-kwiss* 'my son,' Menomini *ne-kīʔs* 'my son,' Proto-Siouan **kši* 'boy,' Ofo *wakasik* 'child,' Mohawk *-ksa-* 'child,' Chinook *-k'asks* 'child,' Miluk *kwič²-* 'child,' Coos *kwēs* 'girl,' Molale *kus-asa* 'child,' San Jose Costanoan *kočo* 'boy,' Southern Sierra Miwok *kot^so* 'son,' Zuni *katsi-k'i* 'girl, daughter,' Huchnom *-k'ič* 'older brother,' Chitimacha *kiča* 'girl,' Atakapa *kiš* 'girl,' Mixe *kīs* 'girl,' Sayula *kiʔčway* 'boy,' Tzeltal *ač'iis* 'girl,' Karok *kač* 'son,' Arra-arra *akit^s* 'brother,' Konomihu *kwičekh* 'girl,' Achomawi *qəsāwi* 'man,' East Pomo *qus* 'baby,' Santa Cruz Chumash *kučo* 'child,' Santa Inez Chumash *kiči* 'infant,' Cochimi *kača* 'brother, sister,' Cocopa *ksa* 'older brother,' Maricopa *ačis* 'daughter,' Comecrudo *kišaχ* 'boy, girl,' Zacapoaxtla *ukič* 'man,' Terraba *kwazir* 'boy,' Boncota *ohut^s-kašo* 'girl,' Pehuelche *akač* 'son, daughter,' Genneken *agačke* 'son, daughter,' Simacu *kiča* 'man,' Mocochi *kašim* 'brother,'

Cuica *kašik* 'brother, sister,' Trumai *axos* 'young, child,' Murato *kīša* 'girl,' Timote *kušik-neum* 'my sister,' Miranya *kossá* 'daughter,' Mocoa *čišik* 'female child,' Motilon *šwkāš* 'little son,' Botocudo *kižak* 'brother, sister,' Tibagi *akoči* 'son,' Guarapuava *koši* 'son,' Krenye *i-kasü-ye* 'daughter.' [N 191; A 281, AK 44, P 88, H 29, MT 61]

15. NOSTRATIC **K'älHä* 'tongue, talk,' Proto-Indo-European **k(λ)lē/kel* 'call,' Proto-Uralic **kēle* 'tongue,' Proto-Altaic **k'älä-* 'tongue, speak,' Gilyak *qlai* 'converse,' Chukchi *qulit* 'voice,' Kamchadal *kel* 'shout,' Yuit *qalaktuq* 'talk, speak,' Kuskokwim *kaligaa* 'calls' = AMERIND **q'wal* ~ **q'wel* 'say, speak,' Proto-Algonquian **kelaw* 'speak,' Shawnee *kala* 'talk,' Micmac *kelusit* 'he speaks,' Kutenai *?aqałcxa-* 'tell,' Squamish *q'wal* 'speak,' Kalispel *q'wel* 'speak,' Pentlatch *kwal* 'say,' Lkungen *q'wel* 'say,' Nootsack *sq'wuq'wal* 'speak,' Coeur d'Alene *qwa?q'wel* 'speak,' Kwakwala *-(k)?āla* 'say,' Nootka *-wā(ł)* 'say,' Bella Bella *wālaq'wāla* 'speak,' Oneida *-kalatu-* 'tell a story,' Chinook *k'wł* 'tell,' North Sahaptin *Wal* 'converse,' Coos *γāla* 'speak,' Siuslaw *hał* 'shout,' Yakonan *qalx* 'shout,' Takelma *sgelew* 'shout,' Bodega Miwok *?ākal* 'tell,' Wappo *?okál'i?* 'talk,' Zuni *?ik'wa* 'say,' Natchez *weł* 'speak,' Totonac *kił-wan* 'say,' Santa Cruz Chumash *kalala* 'shout,' Salinan *k'ok'ol'se* 'speak,' Copca *k'ark'war* 'speak,' Shoshone *?ek'wa* 'tongue,' Ona *kal* 'tongue,' Qawashqar *kalaktas* 'tongue,' Quechua *qallu* 'tongue,' Yahgan *galana* 'shout,' Iranshe *wala* 'talk,' Masaca *walu* 'tongue.' [N 221; E SPEAK₁; A 218]

16. NOSTRATIC **K'ap'a* 'cover, close,' Proto-Afro-Asiatic **kp-/qp-* 'close, cover,' Proto-Uralic **kopa* 'bark,' Kamassian *kuba* 'skin, hide,' Estonian *kōba* 'fir bark,' Cheremiss *kuwo* 'shell, hull, husk,' Proto-Dravidian **kapp-/kavla-* 'to close,' Proto-Altaic **k'apa-* 'cover,' Middle Korean *kēpcil* 'bark,' Japanese *kabur-* 'put on, cover,' *kapá* 'bark,' Ainu *sik-kap* 'eyelid,' Gilyak *xip* 'birch bark,' Greenlandic *qapuk* 'scum, froth' = AMERIND **q'ap'a* 'cover, close,' Squamish *qəp* 'close,' ?Kalispel *čep* 'lock a door,' Kwakwala *qāpōtəla* 'close,' Chemakum *hap'ilii* 'cover,' Oowekyala *kapa* 'to lift a lid, blanket,' Haisla *kāpa* 'covered with frost,' Proto-Central Algonquian **kep* 'close,' Shawnee *kip-* 'covered, closed up,' Ojibwa *-kopy* 'bark,' Wiyot *k'apł* 'be covered,' Dakota *akaxpa* 'close,' Santee *akaxpa* 'cover,' Catawba *kəpa* 'close,' Tutelo *kəpa* 'cover,' ?Nass *hāp* 'cover,' Takelma *k'ūb-i* 'skin,' Molala *qeps* 'skin,' Maidu *kápú* 'bark,' Wintu *χap-la* 'bark,' Nomlaki *kapala* 'bark,' Zuni *k'apa* 'be broad,' Quiché *q'op* 'close,' Kekchi *ts'ap* 'close,' Mixe *kīp-ak* 'bark,' Southern Pomo *k^hawa* 'bark,' Northeast Pomo *k^hawa* 'bark,' East Pomo *xāWal* 'bark,' Southeast Pomo *χwal* 'bark,' Salinan *awuł* 'bark,' Tonkawa *-kapa* 'shut,' Tlapanec *hwapa* 'broad,' Jicaque *kupal-pone* 'broad,' Tewa *k'owa* 'skin,' San Ildefonso *k^howa* 'bark,' Cuna *akapa* 'close one's eyes,' Tarascan *hupr-ku* 'cover,' Chimila *akopron* 'cover,' Banticua *auan-kaba* 'broad,' Atacama *k'aba* 'hide,' Aymara *khopi-* 'cover,' Iranshe *kap* 'cover,' Tuyoneri *ua-kipe* 'scale,' Itene

kapi-ye 'skin,' Amniate *koapa* 'skin,' Arawak *kabburan* 'be broad,' Waraquina *kēpili* 'broad,' Mascoco *kjab* 'cover,' Panobo *kepui* 'close,' Shipibo *kepu* 'close,' Coroado *kapo-em* 'to close,' Krenye *kapi* 'to bolt,' Botocudo *unkupa* 'broad.' [N 212; E SKIN; A 66]

- Illich-Svitych (1967: 356) gave the reconstruction **k'ap*'*λ*.

17. NOSTRATIC **K'ara* 'hearth, burn,' Proto-Afro-Asiatic **k'rr* 'burn,' Proto-Kartvelian **k'era* 'hearth,' Proto-Indo-European **ker-* 'burn, fry, fire,' Proto-Uralic **kor-pe-* 'sing, burn,' Proto-Dravidian **kar(λ)-* 'burn, be scorched' = AMERIND **q'wala* 'burn,' Proto-Salish **q'wəl* 'cook, roast,' Shuswap *q'wəl* 'roast,' Twana *q'wələb* 'cook,' Nootsack *k'wəl* 'cook,' Squamish *q'wəl-t* 'cook,' Pentlatch *kwolaš* 'roast, cook,' Seshault *k'wəl* 'cook,' Lower Fraser *q'wələm* 'cook,' Chemakum *q'wəfili* 'roast,' Mohawk *karis* 'cook,' Tsimshian *gwalk* 'burn,' Takelma *k'wəlay* 'fire,' Coos *kwif* 'cook, boil, burn,' Tarascan *kharhi-pa* 'roast,' Sanema *kwarag'e* 'fire,' Colorado *guaranae* 'boil,' Warrau *koré* 'boil,' Eten *karrm* 'cook, boil,' Nonama *kura* 'fireplace,' Qawashqar *isgura* 'cook,' Tschawwi *kalu* 'cook,' Cahuapana *kalota-* 'cook,' Siona *kuara* 'boil,' Kandoshi *kora* 'burn,' Wapishana *karimet* 'roast,' Arawak *akkurran* 'bake,' Kozarini *kera* 'burn,' Saliba *igara* 'burn, fire,' Yuracare *kula* 'cook,' Siriono *kwarokwara* 'boil,' Yuruna *karigon* 'cook,' Tacana *kwarara* 'boil,' Cayapo *kūrū* 'fire,' Bororo *goriddo* 'roast.' [IS 353, N 215; EQ 24]

18. NOSTRATIC **K'arā* 'black, dark,' Proto-Afro-Asiatic **k'r/kr* 'black,' Proto-Indo-European **ker-/ker-s* 'black, dark,' Proto-Dravidian **kar/kār/kāṛ* 'black, dark,' Proto-Altaic **Karā* 'black,' Mongol *küreṅ* 'dark brown,' Manchu *kuri* 'dark brown,' Korean *kiriŋca* 'shadow,' Japanese *kuro-i* 'black,' Ainu *ekurok* 'black,' *kuru* 'shadow,' Gilyak *i-γr-* 'black,' Eskimo *qirniq* 'black' = AMERIND **k'ara* 'black,' Wichita *kārʔi* 'black,' Mohawk *-akaraʔ-* 'to darken,' Tutelo *ikare* 'dark,' Rumsen *karsist* 'black,' Karok *ikxaram* 'night,' Atacameño *kirikiri* 'black,' Ona *kar* 'charcoal,' Qawashqar *ha-kar* 'dark, black,' Araucanian *kuru* 'black,' Saliba *igarri* 'become dark,' Shuara *kiar* 'become dark,' Upano *kerama* 'dark,' Mekens *koārap* 'black,' Surinam *kārai* 'black,' Mocoa *karanka* 'paint the face black,' korošik 'black,' Galibi *mekoro* 'black,' Opaie *kōra* 'black.' [IS 372, N 213; E BLACK₁; A 38, MC 4]

19. NOSTRATIC **K'Eč'a* 'summer heat,' Proto-Afro-Asiatic **q(j)ṭ* 'summer, heat,' Proto-Uralic **kEč'a* 'summer heat, summer' = AMERIND **k'et^s* ~ **k'at^s* 'hot, heat, sun, summer,' Proto-Central Algonquian **kešj* 'hot,' Shawnee *kiš* 'hot,' Cree *kis-* 'hot,' Fox *kišesw* 'sun,' Passemaquody *kīsus* 'sun,' Yurok *ket^soyn-hego* 'sun,' Proto-Salish **k'was* 'hot, scorch,' Nootsack *k'was* 'hot,' Pentlatch *kwās* 'hot,' Columbian *skwats* 'hot,' Wichita *kišō* 'sun,' Acoma *kāšāiti* 'summer, year,' Natchez *haši* 'sun,' Choctaw *haši* 'sun,' Huastec *k'ičā* 'sun,' Tzeltal *k'išin* 'heat,' Arra-arra *kišen* 'summer,' Santa Ynez Chumash *kīs-si* 'sun,' Seri *kkošij* 'be hot,' Utah *k'wūfī* 'hot,' Mixtec *kači* 'warm, damp,'

Popoloca *kusuwa* 'heat,' Lenca *kaši* 'sun,' Miskito *kisni-sa* 'heat,' Yahgan *kisi* 'summer,' Koaia *kasa* 'sun,' Opaye *hečō-ata* 'summer' (*ata* = 'hot'), Choroti *a-kus* 'hot,' Suhin *kus* 'hot.' [N 224; AK 103]

20. EURASIATIC **ki* '2, dual,' Armenian -*k*' (plural), *me-k*' 'we,' Turkish *iki* '2,' Yukaghir *ki* '2,' Proto-Finno-Ugric **me-k* 'we' (cf. **te-k* 'thou'), Hungarian -*k* (plural), Saami -*k* (plural), Ostyak -*k(-an)* (dual), Yenisei Ostyak *k(-an)* ~ *k(-ai)* (dual), Selkup -*qi* (dual), Yukaghir *tkit* '2,' Turkish *ākir* '2,' Mongolian *ikire* 'twins,' *iki* '2,' Gilyak *me-gi* 'we 2' (cf. *me-r* 'we inc.'), -*ki* 'and,' Chukchi -*mA-k* 'we,' -*tA-k* 'you' (verb suffixes), Proto-Eskimo-Aleut **mi-k* 'we 2,' **ti-k* 'you 2,' Eskimo -*k* (dual), Aleut -*k* (dual) = AMERIND **ki* 'we 2 inc.,' Proto-Algonquian **ke*- 'thy,' Potawatomi *kin* 'thou,' *kin-an* 'we inc.' (cf. *nin-an* 'we ex.'), *kin-wa* 'you,' Yurok -*k*' 'I,' Wiyot -*ak* 'I,' Iroquois *k*- 'I,' Wyandot *kj*- 'we 2 inc.,' *kw*- 'we inc.,' Pawnee *k*- 'I,' Yokuts *ma-k*' 'we 2 inc.' (cf. *ma-i* 'we inc.'), Rumsien *ma-k* 'we,' Chitimacha -*ki*- 'me,' Papantla *ki-t* 'I,' *ki-n* 'we,' Maratino *ko* 'we inc.,' Pomo *ke*- 'my,' Karok *ki-n* 'we,' Taos *ki*- 'we,' South Pame *kakh* 'we inc.,' Xinca *ka*- 'thou,' Millcayac *ka* 'thou,' Tarascan -*ke(-ni)* 'first-person singular acts on second-person singular,' Kaliana *ka(-be)* 'thou,' Proto-Ge **ka* 'thou,' Carib *k*- 'we 2 inc.,' Uitoto *koko* 'we 2,' -*ko* (dual), Galibi *oko* '2,' Hishcariana *asa-ko* '2,' Cholona *ok* 'I,' *ki*- 'our,' Gennaken *ki*- 'my,' *kia* 'I,' Mayna -*ke* 'let us,' Andoa *kua* 'I,' Zaparo *kui* 'I,' *ko*- 'my,' *ka(-na)* 'we exc.' [E TWO₂ & G14; A G10, G19 & G28]

21. EURASIATIC **ku* ~ **ko* 'this,' Japanese *ko-no* 'this,' Ryukyuan *ku-ni* 'this,' Ainu *ku-ri* 'this,' Gilyak *ku* 'that,' Chuvash *ku* 'this,' Southern Uighur *ko* 'this,' Korean *ko* 'that,' Hittite *kā* 'this,' *kūn* 'this' (acc.), *kūs* 'these' (nom./acc.) = AMERIND **ko* ~ **ki* 'this,' Chumash *kaki* 'this,' Subtiaba *kagi* 'this,' Cochimi *khu* 'this,' Jicaque *kone* 'this,' *kiʔa* 'here,' Auake *kiʔa* 'this,' Guaraní *ko* 'this,' Puquina *ko* 'this, that,' Caraja *kua* 'this,' Kamakan *kue* 'that,' Cherente *kua* 'he.' [E G10; A G22]

22. NOSTRATIC **k'ut* 'small,' Proto-Afro-Asiatic **k'(w)t* 'small,' Proto-Kartvelian **k'ut*- 'small,' Proto-Dravidian **kuḍḍ*- 'small,' Turkish *küçük* 'small,' Uighur *kičik* 'small,' Evenki *köčaken* 'small,' Ryukyuan *kūt-ēng* 'be small,' Kamchadal *kižg* 'fine, small,' Kuskokwim *kituq* 'be small,' Inuit -*kuči* (diminutive) = AMERIND **k'ut* 'small, thin, narrow,' Chemakum *k'utin* 'small,' Quileute *k'udī* 'small,' Laguna *k'iči* 'tight,' Santa Ana *k'iči* 'tight,' Wishram *k'ait* 'small,' Nez Perce *kutskuts* 'small,' Molala *kut'a* 'small,' Klamath *k'ečča* 'small,' Modoc *ketsa* 'thin,' Proto-California Penutian **kut* 'little,' Patwin *kuči* 'small,' San Jose Costanoan *kuču-wis* 'small,' Wappo *kut'ija* 'small,' *hut'fwis* 'thin,' Zuni *k'usa* 'become thin,' Quiché *č'uti-k* 'be small,' Huave *kičeeč* 'small,' Pokomchi *k'isa* 'small,' Totonac *aktzú* 'small,' Santa Cruz Chumash *kučo* 'child,' Santa Ynez Chumash *kiči* 'infant,' ?Salinan *k'oškwetop* 'thin,' Seri *kisił* 'small,' koosot 'narrow,' Kiliwa *ket* 'small,' Wala-

pai *kēt*^s 'small,' Yavapai *kit*^{si} 'small,' Tequistlatec *guʔušu* 'narrow,' ?Kiowa *kā't*-*syān* 'narrow,' Mazahua *xút*^ü 'thin,' Tehuelche *kuṭr* 'thin, narrow,' Qawashqar *ikot* 'small,' Macu *kudi* 'small,' Canamari *kuduta* 'small,' Quitemo *kuči* 'thin,' Amuesha *kit*^{ke} 'narrow,' Piaroa *kikiče* 'small,' Tuyoneri *-ket* 'small,' Caranga *kos* 'thin,' Maquiritare *akede* 'thin,' Toba-Guaza *quoti* 'small,' Angaité *ketsoo* 'small,' Lengua *kuṭ*^s*k* 'small,' Choroti *a-kisa* 'thin,' Botocudo *kuji* 'small,' Ingain *kutui* 'small,' Krenye *akod*. [IS 348, N 205; E SMALL₃; A 254]

23. NOSTRATIC *K'Λ (allative), Proto-Afro-Asiatic **k* (allative), Proto-Uralic **-kkΛ/-kΛ* (allative), Yukaghir *-ge/-go* (allative), Proto-Dravidian **-kkΛ/-kΛ* (dative, allative), Proto-Altaic **-kΛ* (dative, allative), Gilyak *-ak* (dative, allative), Aliutor *-ka* (allative), Chukchi *-ki* (locative), *-kjit* (direction of), *mi-k* 'where,' Greenlandic *-k* (locative), *na-k-it* 'whence' = AMERIND **k*(')*i* (allative), Wiyot *ok*^w 'in,' Yurok *-ik* 'in,' Seneca *-keh* 'in,' Maidu *-k* 'toward,' Alsea *k-* (locative), Yuki *k'il* 'toward,' Totonac *k-* 'in,' Yana *-ki* 'hither,' Washo *-uk* 'toward,' Atsugewi *-k* (allative), Chimu *-ek* 'to,' Cuna *ki-* 'in, at, by.' [N 245; E G26; A G45]

24. NOSTRATIC **-la* (collective), Proto-Uralic **-la* (collective), Proto-Dravidian **-l* (plural), Proto-Altaic **-l(a)* (collective), Kamchadal *-al* (collective) = AMERIND **-le* ~ **-la* (plural), Mataco *-el* (plural), Lule *mi-l* 'you' (cf. *mi* 'thou'), *-l* (personal plural, e.g. *kwe-l* 'children'), Mocovi *le-* (plural, cf. *i-tā* 'his father' and *le-tā* 'their father'), Guambiana *-ele* (noun plural), Colorado *-la* (plural of nouns and pronouns), Xinka *-li* (plural of nouns and pronouns), Murire *-re* (pronoun plural), Bribri *-r* (noun plural), Paya *-ri* (plural verb subj.). [N 246; E G20; A G33]

25. NOSTRATIC **magΛ* 'earth,' Proto-Indo-European **meǵh-* 'earth,' Proto-Uralic **māye* 'earth,' Yukaghir *mi-be* 'underworld,' Korean *ma* 'earth,' Ainu *ma* 'peninsula, island,' Gilyak *mi-f* 'earth' = AMERIND **?amek*^w*a* 'earth,' Proto-Salish **t-mix*^w 'earth,' Squamish *t-mix*^w 'earth,' Thompson *tā-mūx*^w 'earth,' Nootsack *mix*^w 'earth,' Proto-Algonquian **-āmeHk(w)-* 'earth, soil,' Fox *-āmehk(w)-* 'earth,' Menomini *-āmehk(w)-* 'earth,' Shawnee *wāp-ām?kwi* 'white clay,' Arapaho *mixta'amu* 'earth,' Cheyenne *-oma-* 'ground,' Kutenai *ammāk* 'earth,' Santee *maka* 'earth,' Hidatsa *ama* 'earth,' Mandan *ma'āk* 'earth,' Biloxi *amā* 'earth,' Ofo *amān* 'earth,' Tutelo *manā?* ~ *mā?* 'earth,' Nez Perce *?āma* 'island,' Yakima *uma* 'island,' Wappo *?ōma* 'earth, world,' Chimariko *ama* 'earth,' Proto-Pomo **?a(h)mā* 'earth,' Kashaya *?amā* 'earth, dirt,' Southern Pomo *?aāna* 'earth,' Northern Pomo *mā* 'earth,' Northeast Pomo *?amā* 'earth,' Southeast Pomo *maṭ* 'earth,' Proto-Yuman **?-mat* 'earth,' Cochimi *emat* 'earth,' Cocopa *maṭ* 'earth,' Maricopa *amat* 'earth,' Yuma *?amaṭ* 'earth,' Mohave *amat* 'earth,' Diegueño *?emat* 'earth,' Quinigua *ama* 'earth,' Jicaque *ma* 'earth,' Tarascan *omequa* 'island,' Yahgan *mik'in* 'earth,'

Mocochi *mikuč* 'earth,' Callahuaya *makke* ~ *yamakan* 'earth,' ?Tora *timak* 'earth,' Chapacura *čimak* 'earth,' Urupa *manaka* 'earth,' Wañam *namakwam* 'earth,' Yagua *makane* 'earth,' Aparai *amato* 'island,' Ouayana *ahmonta* 'island,' Sapiboca *meči* 'earth,' Cavineña *meči* 'earth,' Panobo *maxpo* 'earth,' Cashinawa *mapo* ~ *mai* 'earth,' Caripuna *māi* 'earth,' Otuque *moktuhu* 'earth,' Camacan *hamiko* 'earth,' Botocudo *am* 'island,' Patasho *aham* 'earth,' Macuni *ām* 'earth.' [IS 342; E EARTH₁; A 96]

26. EURASIATIC **man* 'hand,' Proto-Indo-European **man-/mā-r-* 'hand,' Yurak *mana* 'finger,' Tungus *mana* 'paw,' Korean *manei* 'touch,' Ainu *amojn* 'hand,' *imeka* 'gift,' Gilyak *imγ-* 'give,' *man-* 'measure by handspans,' *tuñ-miñ* 'finger,' Aliutor *mānγ-* 'hand,' Kerek *mānəqai* 'hand,' Itelmen *man* Ze 'palm' = AMERIND **man-/mak-* 'hand, give,' Proto-Central Algonquian **mī* 'hand,' Kwakiutl *maχwa* 'give potlatch,' Chinook *m-* 'hand (v.),' Maidu *ma* 'hand,' Central Sierra Miwok *ammə* 'give,' Choctaw *ima* 'give,' Mixe *ma* 'give,' Totonac *makan* 'hand,' Akwa'ala *man* 'arm,' East Pomo *ma* 'hold,' Salinan *maa* 'hand,' Tequistlatec *mane* 'hand, arm,' *mage* 'five,' Proto-Uto-Aztecan **ma* 'hand,' **maka* 'give,' Proto-Chinantec **man* 'hand,' Kiowa *mā* 'hand,' *mēga* 'give,' Proto-Tanóan **ma-n* 'hand,' Colorado *manta* 'hand,' Ayoman *man* 'hand,' Mayna *mani* 'arm,' Quechua *maki* 'hand,' Ona *mar* 'arm, hand,' Ticuna *mi* 'hand,' Proto-Tupi **meʔeŋ* 'hand,' Caranga *maka* 'receive,' Pilaga *imak* 'left hand,' Lengua *amik* 'hand,' Proto-Panoan **mikini* 'hand,' Kamakan *mane* 'give,' Bororo *mako* 'give,' Kaingang *ma* 'bring.' [E HAND₁; A 137]

27. NOSTRATIC **mene* 'walk, step,' Proto-Indo-European **men-* 'trample, step on,' Proto-Uralic **mene* 'go, travel,' Yukaghir *mān-* 'jump,' Old Turkish *man-* 'a step,' Tartar *maŋda* 'run,' Kamchadal *emeneŋ* 'a step' = AMERIND **mina* 'go,' Santa Ana *īma* 'go!,' Chitimacha ?*ami* 'go, go away,' Kalapuya *maʔa* 'come,' Wappo *mi* 'go,' Taos *mē* 'go,' Proto-Uto-Aztecan **mi* 'go,' Bribri *mina* 'go,' Rama *mang* 'go!,' Matanawi *amī* 'go!,' Colorado *mai* 'go,' Araucanian *-me-* 'go to . . .,' Pehuenche *amu* 'walk,' Auake *ma* 'walk,' Yuracare *ama* 'come!,' Moseten *mii* 'go, walk,' Chulupi *ma* 'go,' Umotina *a-menu* 'go,' Proto-Ge **mō(r)* 'go, walk,' Dalbergia *mū* 'go,' Kamakan *emang* 'go.' [IS 350, N 295; E WALK; A 126]

28. NOSTRATIC **mā* 'we inc.,' Proto-Afro-Asiatic **m(n)* 'we inc.,' Proto-Kartvelian **m-* 'we inc.,' Proto-Indo-European **me-s* 'we,' Proto-Uralic **mā-/me-* 'we,' Yukaghir *met* 'I,' *mit* 'we,' Proto-Dravidian **mā* 'we,' Proto-Altaic **bā-* 'we ex.' (oblique *mā-n*), Gilyak *me-ġi* 'we-2,' *me-r* 'we,' Chukchi *muri* 'we,' Chukchi *-m* 'let us,' Aleut *-man/s* 'we' = AMERIND **ma* 'we inc., we,' Tsimshian *-m* 'we,' Takelma *-am* 'us,' Yokuts *ma-k* 'we 2 inc.,' *ma-i* 'we inc.,' Rumsien *ma-k* 'we,' Mutsun *mak-se* 'we,' Coast Miwok *mā* 'we,' Yuki *mī* 'we inc.,' Santa Cruz Chumash *miči* 'we,' Yavapai *magi* 'we,' Maratino *min* 'us,' Cuitlatec *moguelo* 'we,' Chimu *mæ-ič* 'we,' Cahuapana *moki* 'we,' Sabela

-*mōni* 'we,' Amaguaje *may* 'we,' Siona *may* 'we,' Yupua -*mai*- 'we,' Cubeo *mahe* 'we,' Särä *mani* 'we,' Desana *mari* 'we,' Tucano *mani* 'we,' Barasano *mānī* 'we inc.,' Muinane -*mo* 'our,' Macuni *mamai-aičohm* 'we,' Came *em* 'we.' [N I:6; E G1; A G3]

29. NOSTRATIC **mo* ~ **mu* 'this, he, other,' Proto-Afro-Asiatic **m(w)* 'they, this, he,' Proto-Kartvelian **m(a)*- 'this, he,' Proto-Indo-European **mo*- 'he, this,' Proto-Uralic **mū*-/ *mō*- 'other,' Proto-Altaic **bū* / *bō* 'this' (oblique *mu*-*n*) = AMERIND **mo* 'that, he, the,' Maidu *mi* 'he,' *mō* 'that one,' *mi* 'this, that,' Atakapa *ma* 'that,' Proto-Algic **m*- (impersonal possessor), Proto-Uto-Aztecan **mo*- 'himself,' Taos *mo*- 'himself,' Guaraní *amo* 'that,' Arara *mo* 'he,' Barama *mo(-ko)* 'he, she,' *mo(-ro)* 'it,' Waiwai *moro* 'that one,' Moseten *mo* 'that, he,' Chama *ma*- 'that,' Northern Cayapo *amu* 'he,' Guato *ma*- (stage III article). [N 303; A G14]

30. EURASIATIC **mu(s)* 'fly, gnat,' Afro-Asiatic: Musgu *ammumi* 'bee,' Gidder *amama* 'bee, honey,' Chibak *məmə* 'honey,' Iznacen (θ) *ammem(θ)* 'honey,' Proto-Indo-European **mū(s)*- 'fly, gnat,' Ainu *mose* / *moš* 'fly, nettle,' Japanese *musi* 'insect, bug, worm' = AMERIND **mumu* / *mumi* 'bee, fly,' Chemakum *muumuuma* 'bee,' Proto-Central Algonquian **amoa* 'bee,' Bella Coola *mamis* 'fly,' Molala *mumu-s* 'fly,' Santa Cruz *mumuru* 'flies,' Natchez *mom* 'bee,' Huave *muam* 'bee,' Esselen *mumirux* 'flies,' Salinan *le-me'm* 'bee, wasp,' Proto-Uto-Aztecan **mumu* / *meme* 'bee,' **mu* 'fly,' Tucano *mumi* 'bee, honey,' Maku *mime* 'bee,' Bororo *muiawo* 'bee,' Northern Cayapo *amiu* 'wasp.' [E GNAT₁; A 27, AK 79, MG 117]

• The Afro-Asiatic forms are taken from Greenberg (1963: 52).

31. NOSTRATIC **na* (locative), Proto-Afro-Asiatic **-n* (locative), Proto-Kartvelian **-n* (locative), Proto-Indo-European **en* / *n* (locative), Proto-Dravidian **-n(ɿ)* (locative), Proto-Uralic **-na* / *-nä* (locative), Yukaghir *pure-n* 'above,' *ho-n* (< **ko-n*) 'where,' Proto-Altaic **-na* (locative), Korean *anh* 'inside' (*n*.), Japanese *asa-na* 'in the morning,' Ryukyuan *-ni* 'in,' Ainu *na-k-an* 'whither,' *rik-un* 'above,' Gilyak *-n* (locative), Aleut *-an* (locative) = AMERIND **na* ~ **ni* (locative); examples of this affix are seen in the Amerind citations in etymologies 10 and 17 in Chapter 14, in conjunction with the *k*- and *m*-interrogatives, with the resultant meaning of 'where' or 'when.' [N I:11; E G30; A G47]

32. NOSTRATIC **NA* 'this, that, he,' Proto-Afro-Asiatic **n(j)* 'this,' Proto-Kartvelian **-n* 'he,' Proto-Indo-European **ne* / *no*- 'this,' Proto-Uralic **nɿ*- 'this,' Proto-Dravidian **nā* 'this' = AMERIND **na* ~ **ni* 'this, that, he, here,' Paez *ana* 'this,' Colorado *ne* 'he,' Choco *nan* 'that,' Yahgan *-n* 'his,' Quechua *-n* 'his,' Kahuapana *nana* 'he,' Amuesha *nā* 'he,' Yuracare *na* 'that, he,' Suyá *ní* 'this,' Arazáire *nina* 'here,' Galibi *ini* 'this,' Wayana *ine* 'he.' [N 332; A G15 & G23]

33. NOSTRATIC *-NA (plural of animate nouns), Proto-Afro-Asiatic *-ān (plural of animate nouns), Proto-Kartvelian *-en/-n (plural of animate nouns), Proto-Uralic *-NA (plural), Proto-Altaic *-na/-nā (plural of animate nouns) = AMERIND *na (plural, especially of pronouns and nouns referring to humans), Kagaba *nas-an* 'we' (cf. *nas* 'I'), Lenca *ana-nan* 'they' (cf. *ina* 'he'), Zaparo *ka-na* 'we' (cf. *ka* 'I'), Jebero *-nən-na* 'their' (cf. *-nən* 'his'), Yamana *sa-n* 'you' (cf. *sa* 'thou'), Aguaruna *-na* (plural subj. of a verb), Tiquie *nā* 'they, their,' *na-* (plural of demonstratives and human nouns), Canichana *-na* (plural of human nouns). [N 333; A G30]

34. NOSTRATIC *ńanga 'tongue,' Proto-Kartvelian *nina/ena 'tongue,' Proto-Indo-European *ǵnǵhū/jǵnǵhū 'tongue,' Proto-Dravidian *nanc- 'lick,' Proto-Uralic *ńańkǵa 'tongue,' = AMERIND *ńene 'tongue,' Maidu ?ení 'tongue,' Proto-Uto-Aztecan *neni 'tongue,' Allentiac *nanak* 'tongue,' Millcayac *nanat* 'tongue,' Tschaawi *nenera* 'tongue,' Jebero *ninra* 'tongue,' Cahuapana *ninegla* 'tongue,' Tucano *nene* 'lick,' Saliba *nene* 'tongue,' Machiguenga *-nene* 'tongue,' Guarani *ńē?ē* 'tongue,' Bare *nu-nene* 'tongue,' Ipurina *ne-nene* 'tongue,' Campa *anene* 'tongue,' Wapishana *ninuk* 'tongue,' Kariri *nunu* 'tongue,' Dzubucua *ńunu* 'tongue,' Kamaru *nunuh* 'tongue,' Wayoro *o-nyon* 'tongue,' Shuara *inē* 'tongue,' Taparita *yonan* 'tongue,' Tacana *yana* 'tongue,' Cavineña *yana* 'tongue,' Conibo *ana* 'tongue,' Chacobo *hana* 'tongue,' Proto-Ge *ńō-to 'tongue,' Apinage *ńo-to* 'tongue,' Chavante *da-non-to* 'tongue,' Cayapo *ńo-to* 'tongue,' Came *none* 'tongue,' Apucarana *ńōne* 'tongue,' Arikapu *i-nontā* 'tongue,' Camacan *nāńčo-nenkir* 'tongue.' [N 1:18; A 256, A 258]

35. NOSTRATIC *ńiK'a 'neck vertebra, neck,' Proto-Uralic *ńika 'vertebra, neck,' Selkup *nukka* 'nape of the neck,' Proto-Altaic *ńika- 'neck vertebra, neck,' Khalkha *nugas(-an)* 'spinal cord' = AMERIND *nuq' 'neck, throat, swallow,' Kwakwala *nəqwa* 'swallow,' Nootka *n'ofaq-* 'swallow,' Tutelo *-nūk-sā?* 'nape' (= 'neck-back'), Oneida *-nuhs-* 'shoulder,' North Sahaptin *nuq'-waš* 'neck,' Klamath *n'awqs* 'throat,' Proto-Muskogean *nukk'w'i 'neck,' Creek *nokwv* 'neck,' Hitchiti *nōkbebe* 'neck,' Natchez *naxts* 'throat,' Alabama *nokbi* 'throat,' Huave *onik* 'neck,' Chorti *nuk* 'neck,' Huastec *nūk* 'neck,' Tzotzil *nuk* 'neck,' *nuk'ulal* 'throat,' Kekchi *nuk* 'swallow,' Tequistlatec *nuk* 'swallow,' Salinan (*p-*)ēnik'a 'throat,' Boncota *anokua* 'nape,' Tegria *anokua* 'nape,' Desano *wi-nīgi* 'neck,' Tucano *vee-nexko* 'neck,' Siona *naxe-seamu* 'nape' (= 'neck-back'), Pioje *naxe-mu* 'neck,' Coto *njaxe-teka* 'nape, throat,' Curiari *nōhūi* 'neck,' Proto-Arawakan *nuki 'neck,' Piro *noxī* 'neck,' Waraquina *nokane* 'nape,' Carutana *nouxē* 'nape,' Waimare *nukuluaka* 'throat,' Tacana *enaha* 'neck,' Andoke *ka-ńekkha(ii)hih* 'neck.' [N 330; A 255]

- In the Nostratic languages cited by Illich-Svitych (1976: 92), the first vowel is *i* in some forms, *u* in others. In his reconstruction of the Proto-Nostratic form, Illich-Svitych chose *i*. The Amerind family—an outgroup

to Nostratic—indicates that the original vowel was *u*, and typological considerations would also favor deriving *i* from *u*, rather than vice versa.

36. NOSTRATIC **na* 'we ex.,' Proto-Afro-Asiatic **naḥnu* 'we ex.,' Proto-Kartvelian **na*j 'we ex.,' Proto-Indo-European **ne-/nō* 'we,' Proto-Dravidian **nām* 'we inc.,' Korean *na* 'I,' Ainu *en* 'me,' Gilyak *nī* 'I,' *nī-te* 'we-2,' *nī-kta* 'we' = AMERIND **na* 'we ex., we, I,' Nootka *newa* 'we,' Santa Ana Keres *hinu* 'I, we,' Proto-Algonquian **ne-* 'I,' Tsimshian *n-* 'I,' Nez Perce *na* 'we,' Siuslaw *na* 'I,' Yokuts *na?* 'I,' Huave *-na-* 'I,' Karok *na* 'I,' Comecrudo *na* 'I,' Cotoname *na* 'I, we,' Proto-Aztec-Tanoan **ne?* 'I,' Kiowa *nā* 'I, we,' Mixtec *n-* 'I, we ex.,' Popoloca *n-* 'I, we ex.,' Chinantec *n-* 'I, we,' Cuna *an* 'I,' Move *nu* 'we,' Rama *na* 'I,' Xinka *ni* 'I,' Kagaba *nau*i 'our,' Guamaca *nabi* 'we,' Norteño *nu* 'we,' Bintucua *nan* 'I,' Timucua *ni-* 'I,' Guambiana *na* 'I,' Jaqaru *nā-* 'I,' Yehubde *en* 'we,' Papury *yn* 'we,' Taulipang *ina* 'we,' Cariniaco *naana* 'we,' Galibi *ana* 'we,' Macusi *ana* 'we,' Proto-Panoan **no* 'we,' Mataco *no-* 'my,' *na-* 'our ex.,' Vejoz *no* 'our ex.,' Pilaga *ien* 'we,' Guenoa *an-* 'our,' Vilela *nati* 'we.' [N 17; E G3; A G1]

37. NOSTRATIC **oñe* 'hand,' Proto-Uralic **oñe* 'hand, handmade,' Proto-Altaic **uñā* 'obedient' = AMERIND **ʔoni* 'hand,' Nootka *hinī* 'give,' Kutenai (*ahq-*)*ʔān* 'handle,' Proto-Central Algonquian **-en* 'by hand,' Potowotami *-in* 'by hand,' Ojibwa *-in* 'by hand,' Blackfoot *-in-* 'hand,' Wiyot *αn-* 'by hand,' Tuscarora *-ʔehn-* 'hand,' Onondaga *hōnia* 'finger,' Mohawk *-aʔnye-* 'hand,' Seneca *ʔnya* 'hand, finger,' Tsimshian *an'ōn* 'hand,' Chinook *āyana* 'hand,' Takelma *oyon* 'give,' North Sahaptin *-ni-* 'give,' Nez Perce *-ni-* 'give,' Modoc *ney* 'give,' Lake Miwok *hiina* 'give,' Seri *ʔanol* 'hand, finger,' Proto-Central Otomi **ʔuni* 'give,' Timucua *huena* 'hand,' Mariusa *uhnā* 'hand,' Mura *haneai* 'hand,' Quechua *ayni* 'lend,' Yuri *-enoo* ~ *-unoo* 'hand,' Masaca *inæ* 'finger,' Ubde-Nehern *nooi* 'give,' Marahan *nonooi* 'give,' Amaguaje *hente* 'hand,' Siona *ente* 'hand,' Ticuna *hēntē* 'hand,' Proto-Nambikwara **ō* 'give,' Sabane *ʔō* 'give,' Uru *ona* 'give,' Kariri *una* 'share,' Callahuaya *jiana* 'give,' Taparita *yonga* 'hand,' Ocaina *onu* ~ *honōho* 'hand,' Kaliana *ay-eña-li* 'finger,' Jaricuna *uena* 'hand, finger,' Macushi *uy-enθa* 'hand, finger,' Opone *ñeñe-taratara* 'finger,' Umaua *yēnyale* 'hand,' *yenya-gamulu* 'finger,' Galibi *yenarari* 'hand,' Acawai *y-enna-ru* 'hand,' Carare *ñiñae* 'hand,' Proto-Panoan **ʔinā* 'give,' Panobo *inai* 'give,' Shipibo *hinahue* 'give me,' Amahuaca *inanki* 'give,' Toba *ane* 'give,' Mocovi *yanni* 'give,' Chulupi *anhyut* 'give,' Lule *ni* 'give,' Kaskiha *nēēn-gi-ma* 'give,' Mosesten *uñ* 'hand,' Proto-Ge **ñi-kra* 'hand,' Suya **ñi(-ko)* 'hand,' Came *ningue* 'hand, finger,' Palmas *ninge* 'hand,' Catarina *ñonem* 'give,' Botocudo *en-ti* 'give,' Otuke *i-yuna* 'finger,' Opaie *e-īnye* 'hand,' Mashubi *ni(-ka)* 'hand.' [IS 362; A 138]

38. NOSTRATIC **p'āk'ʷ* 'hot, roast,' Proto-Indo-European **pekʷ-* 'roast, boil, cook,' Proto-Uralic **pākka* 'hot,' Yukaghir *pugolet* 'warm' (v.), Proto-Altaic

*pākū 'hot,' Nanai *peku* 'hot,' Korean *pokk-* 'roast,' Japanese *wak-* (< *bak*) 'boil,' Koryak *pəɣpəɣ* 'boil,' Kamchadal *p'axp'aŋ* 'boiled jukola,' Kuskokwim *puqtla* 'heat' = AMERIND *pek'u 'burn, hot,' Proto-North Wakashan *px- 'warm (v.), hot,' Kwakwaka *pəx* 'heat' (v.), Squamish *p'ač* 'hot,' ?Chippewa *čibákwe* 'cook,' ?Ojibwa *tšipākkwe* 'cook,' Modoc *puk* 'cook,' Takelma *bok'o-bax* 'boil,' Lake Miwok *bok-* 'boil,' Chitimacha *pāčī* 'roast, fry,' Atakapa *wak* 'roast,' Tzotzil *bak'ubel* 'roast,' vok- 'boil,' Achomawi *poxpox?us* 'boil,' East Pomo *p^ha-* 'cook,' North Pomo *p^hā* 'cook,' Kashaya *hp^ha* 'bake,' Walapai *pak* 'boil,' Comecrudo *pakiap* 'boil, cook,' Tlappanec *bahi* 'boil,' Yurumangui *baka-isa* 'heat' (v.), Tewa *p'ahāŋ* 'be burnt,' Tübatulabal *wā?* 'broil,' Cayapa *būke* 'boil,' *bextsu* 'toasted,' Itonama *ba?i* 'bake,' Catio *bakoi* 'roast,' Eten *pokeiñ* 'hot,' Atacameño *bočon* 'heat,' Guambiana *pačig-* 'hot,' Bribri *pat^se* 'kindle,' Paya *pas* 'kindle,' Sumu *buswi* 'burn,' Yahgan *pūkū* 'burn, cook,' Yamana *amux-puka* 'cook,' Barasano *péka* 'fire,' Capishana *peikärä* 'roast,' Siona *poho* 'roast,' Ubde-Nehern *puhuitums* 'boil,' ?Marahan *woxyoi* 'boil,' Waiiana *pekkume* 'burn,' Puinave *abag* 'roast,' Tuyoneri *epak* 'burn,' Cayuvava *boko* 'hot,' Yuracare *boče* 'burn,' Kulina *puku* 'hot,' Karif *abuga-dina* 'roast,' Callahuaya *-ppoke-na* 'roast,' Wayoro *pukwa* 'burn,' Guayaki *^mbaku* 'cook, heat,' ?Witoto *peiche* 'roast,' Vejoz *pokue* 'roasted,' Pilaga *apakata* 'hot,' Amahuaca *hobake* 'cook,' Cavineña *baho* 'roast,' Botocudo *pek* 'burn,' *apok* 'roast,' Karaho *puk* 'burn,' Erikbatsa *okpog(-maha)* 'burn,' Caraho *hepuk* 'burn.' [IS 337; E HOT₁ & ROAST₁; CP 105 & 109, MG 18]

39. NOSTRATIC *p'a/ʌ 'burn,' Proto-Indo-European *pelH-/pleH- 'burn,' Proto-Uralic *pa/ʌ- 'burn,' Yurak *parada* 'burn up,' Yukaghir *par* 'cook,' Proto-Dravidian *pa/ʌ- 'sparkle,' Korean *pul* 'fire,' Ainu *parase* 'burn,' Gilyak *paru* 'catch fire' = AMERIND *pale 'burn, fire,' Nootka *pat^l* 'flaming, lit up,' Nez Perce *ipalataksa* 'roast,' Patwin *wala* 'burn' (intr.), Chol *pulem* 'burn,' San Miguel Salinan (*p*)ōf 'toast,' Yuma ?apilⁱ 'burn' (intr.), Diegueño *upil* 'burn' (intr.), Akwa'ala *ipil* 'burn,' Isleta *p^hał* 'burn,' Tarascan *apare* 'burn,' Kagaba *pula* 'burn, roast,' Ulua *balpat^si* 'burn,' Guatuso *cue-pala* 'fire,' Paya *piri-ha* 'toast,' Itonama *u-bari* 'fire,' Catio *pureai* 'burn,' Cayapa *biriju* 'roast,' Yamana *apurū* 'roast,' Quechua *wala* 'burn,' Aymara *pari* 'hot,' Qawashqar *obillia* 'burn,' Yupua *pilo* 'fire,' Tsöla *heobale* 'roast,' Chirango *tsoebali* 'roast,' Waiiana *paale* 'roast,' Yuracare *pele* 'burn,' Arikem *pureo-ipapa* 'cook,' Chayma *ipura* 'roast,' Jaricuna *ipuruda* 'roast,' Surinam *pūru* 'roast,' Guarapuava *poro* 'burn,' Puri *mbori* 'burn.' [IS 337; E BURN₁; A 115]

40. NOSTRATIC *p'atʌ 'foot, footstep,' Proto-Afro-Asiatic *pt- 'go, leave,' Proto-Indo-European *pēd/pōd 'foot, footsteps,' Proto-Dravidian *pa/ʌ 'footsteps, palm,' Uralic: Ziryān *pod* 'foot, sole,' Ostyak *petta* 'sole,' Proto-Altaic *p'ad-ak 'foot, footsteps,' Korean *padak* 'bottom, sole,' Koryak *apt-* 'kick' = AMERIND *pati 'foot,' Zuni *pačči* 'sole,' Klamath *peč* 'foot,' Lutuami *pat^s*

'foot,' Maidu *paji* 'foot,' Santa Clara (či-)pai 'foot,' Quinigua *boi* 'deer's foot,' Tewa *po* 'leg,' Maku (t^se-)peči 'shin,' Puinave (a-)ped 'shin,' Ticuna *para* 'tibia,' Kariri *bui* 'foot,' Baure *poj* 'foot,' Andoke *pa* 'leg,' Yabarana *petti* 'thigh,' Vilela *ape* 'foot,' Chiquito *piri* 'leg,' Proto-Ge **par* 'foot,' Opaie (či-)para 'foot,' Arikapu (ši-)pra 'foot,' Botocudo *po* 'foot, hand.' [N 1:20; E FOOT₂; A 120, MC 66]

41. NOSTRATIC **p'at* 'wide,' Proto-Afro-Asiatic **pt*-'/pt- 'wide, to open,' Proto-Indo-European **pet*(H)- 'wide, to spread,' Proto-Dravidian **pāt*(t) 'plot of land,' Proto-Altaic **pata*- 'field,' Ainu *para* 'broad, flat,' *pira* 'open, spread out,' Korean *pāl*- 'become broad,' Old Japanese *pirō-i* 'broad,' Gilyak *p'al*- 'floor,' Kamchadal *p'(ǎ)l-xaŋ* 'cheek' = AMERIND **pat*^h 'a 'broad, flat,' Haisla *pat*^h 'a 'flat,' Bella Bella *bāt*^h 'a 'fathom, span,' Proto-Salish **pʌt*^h 'broad,' Nisqualli *as-pel* 'broad,' Shuswap *c-pet* 'spread out,' Yurok *pel* 'broad,' Wiyot *bel* 'flat, wide,' Proto-Siouan **p-ra* 'flat, broad,' Biloxi *palači* 'broad,' Chiwere *blaθge* 'flat,' Tsimshian *baʔ* 'broad,' Nass *baʔ* 'spread out' (v.), Wishram *opēd*^h 'stretch out,' Gashowu *phal* 'spread out,' Yawelmani *palin* 'flat,' Maidu *bat-batpe* 'flat, planar,' Southern Sierra Miwok *ʔappāle* 'broad,' Lake Miwok *pat*^h 'flat,' Koasati *patha* 'broad,' Alabama *pat*^h 'a 'broad,' Natchez *patha* 'broad,' Tunica *pāl* 'flat,' Yana -*dʔpal*- 'flat,' North Pomo *bado* 'flat,' San Antonio Salinan (p)*elet*^h 'o 'open,' Kiliwa *pataj* 'broad,' ?Cocopa *ʔaʔ* 'broad,' Comecrudo *papol* 'flat,' Quinigua *patama* 'broad,' Tequistlatec *eʔpat*^h 'gi 'broad,' Mono *papa-haano* 'broad,' Ulua *pap*- 'opened on,' Timucua *pal-no* 'open,' Quechua *palta* 'broad,' Yamana *patux* 'flat country,' Yahgan *patuk* 'flat,' Otomi *pap-par* 'broad,' Guahibo *patajuobi* 'open,' Uru *pʰala* 'broad,' Callahuaya *ppejra* 'broad,' Wapishana *ibar* 'flat,' Muinane *aparide* 'open,' Ocaina *tʰa-pīra* 'you open it,' Toba Guazu *pateta* 'flat,' Tacana *pai* 'flat,' Capasho *pato* 'broad,' Ramkokamekran *ipoti* 'broad.' [IS 372; E BROAD; A 52]

42. NOSTRATIC **pita* 'hold,' Proto-Indo-European **pēd*/*pōd*- 'seize, hold,' Proto-Uralic **pitä* 'hold,' Proto-Dravidian **piṭa*- 'hold, seize,' Korean *pat* 'receive,' Japanese *wata-s*- 'receive,' Chukchi *pir-i*- 'carry,' Aleut *hid-u-sa*- 'carry away' = AMERIND **pitu* 'hand, hold,' Abenaki *u-pedi-n* 'his arm,' Pawnee *pīd*/*pīru* 'arm,' Chinook *pote* 'arm,' Yokuts *pʰuṭʰəŋ* 'hand, arm,' Proto-Muskogean **put* 'touch,' Choctaw *potoli* 'handle, feel, touch,' Kalapuya *putukwi* 'arm,' Wappo *pito* 'touch,' Alabama *pota* 'take.' [IS 339; E SEIZE₁; AK 203, P 99, 243 & 260]

43. NOSTRATIC **p'oja* 'child, baby,' Proto-Uralic **pojka* 'son,' Proto-Altaic **pō*-/pi- 'child, baby' = AMERIND **p'oj* '(younger) brother,' **p'ojp'oj* 'older brother,' Yurok -*pā* 'brother,' Lillooet *äpa* 'older brother,' ?Santa Ana -*w'ɪ* 'child,' Proto-California Penutian **bē* 'older brother,' Foothill North Yokuts *p'aj* 'baby,' *p'ajeeʔi* 'child,' Maidu *p'ü* 'boy,' *p'übe* 'son,' Wappo *ʔepa* 'older brother,' Zuni *papa* 'older brother,' Achomawi *apo* 'brother,' Atsugewi

pupa 'brother,' ?Yana p'au?ni 'son,' Shasta ?apu 'older brother,' Konomihu epput- 'brother,' Washo -peyu 'younger brother,' San Miguel Salinan apēu 'brother,' Salinan pepe? 'brother,' Taos p'ay-na 'younger brother,' popo-na 'older brother,' Tewa bibi 'brother,' Kiowa pabi 'brother,' San Ildefonso ep'i 'infant,' Proto-Uto-Aztecan *pa 'brother,' Mono papi 'older brother,' Kuwaisu pabi-ne 'older brother,' Proto-Oto-Manguen *po 'younger brother,' *papi 'older brother,' Cacaopera pai-ka 'older brother,' Shiriana aba 'older brother,' Chumulu pava 'brother,' Sabanero pabaligu 'brother,' Cuaiquer paijpa 'son,' Nonama hamupui 'brother,' Matanawi upi ~ opi 'brother,' Atacameño aba ~ bija 'son,' Tehuelche abbo 'boy, child,' Kolan pua- 'brother,' Tuwituwey bibi 'younger brother,' Yahgan pepe 'child,' Cahuapana babi 'child,' Papury pui 'younger brother,' Waikina bai(-ga) 'brother,' Muniche ye-baε 'younger brother,' Ticuna bu?ɤ 'child,' Tucano po 'child,' Yuracare pe 'younger brother,' pi 'older brother,' Kariri popo 'older brother,' Dzubucua popo 'older brother,' Kamaru popo 'older brother,' Chamacoco pab 'child,' Turaha pab 'child,' Ebidoso pab 'son,' Paumari ibaii 'son,' Emerillon paa 'older brother,' pii 'child,' Arikem opoira 'son,' Hishcariana pepe 'older brother,' Yagua poen 'son,' rai-puipuin 'brother,' Peba pwīī 'brother,' Taulipang pipi 'brother,' Pavishana upi 'brother,' Accawai poito 'boy,' Proto-Panoan *poi 'sibling of opposite sex,' Shipibo pui 'brother,' Caripuna pui 'brother,' Pacawara eppa 'brother,' Proto-Tacanan *bui 'son, daughter,' Moseten voji 'sister,' voji-t 'brother,' Mascoy pojje 'my son,' Botocudo po 'brother,' Guato be 'son,' Kaingan ve 'sibling,' Umotina abu 'older brother.' [IS 360; E CHILD₂; A 53]

- Amerind shows the semantic innovation CHILD > BROTHER, with subsequent development of a contrast between plain and reduplicated roots, *p'oj 'younger brother' vs. *p'ojp'oj 'older brother,' as seen most clearly in the Taos examples above.

44. EURASIATIC *pol 'dark,' Proto-Indo-European *pel-/pol- 'pale, gray,' Proto-Uralic *pil'ma 'dark,' Old Turkish boz 'gray,' Mongolian bora 'gray,' Buriat balay 'dark,' Manchu balu 'blind,' Gilyak polm 'make blind,' Chukchi pylm 'dark,' pylmatyk 'become dark' = AMERIND *pol 'black,' Seri ko-opoɬ 'black,' Yana pal 'black,' Karankawa pal 'black,' Cuna polea 'be dark,' Tarascan vera- 'dark,' Cuitlatec puluši-li/puruši 'black,' Ulua bara 'black,' Itonama bola 'shadow,' Tehuelche epoln 'black,' Patagon apula 'night,' Qawasqar pal 'black,' Capixana vorone 'black.' [E DARK₁; A 37, CP 18]

45. NOSTRATIC *p'uča 'body hair, down, feathers,' Proto-Kartvelian *pačw- 'body hair, feather,' Proto-Indo-European *pous- 'down, body hair,' Proto-Uralic *puča 'down' = AMERIND p'ut'i 'hair, feather, bird down,' Bella Bella pāt'a 'feather,' Kwakwaka p'aɬəm 'wool,' ?Nootka p'ayaɬ 'hair,' Lower Fraser st'p'el'qən 'feather,' Lummi st'p'el'qən 'feather,' Coeur D'Alene s-puɬt 'feather,' Quileute būtku 'hair,' Wiyot bāt 'hair,' Caddo bāt 'hair,' Tsimshian

p'əlk'wa 'bird down,' Coos *wat'* 'feather,' Alsea *pəlupe* 'feather,' Yaudanchi *paada* 'feather,' Wintu *p'it* 'feather,' Nomlaki *pute* 'feather,' Maidu *butú* 'hair,' Nisenan *butuj* 'feather,' Bodega Miwok *púttá* 'feather,' Plains Miwok *pútte* 'feather,' Lake Miwok *pottol* 'fur,' Clear Lake Yuki *p'oti* 'feather,' Wappo *pučiš* 'hair,' Atakapa *-puli* 'feathers,' Tunica *-puli* 'hair,' San Buenaventura Chumash *pakwan* 'hair,' Jicaque *pusus* 'feather,' Taos *p'o-na* 'hair,' Tewa *p'o* 'hair,' San Ildefonso Tewa *p'hō* 'hair,' Kiowa *pho-* 'hair, fur,' Proto-Uto-Aztecan **po* 'body hair,' Southern Paiute *pyh̄y* 'fur,' Ulua *butuka* 'body hair,' Sumu *butuni* 'pubic hair,' Nonama *paday* 'feather,' Choco *puda* 'hair,' Citara *puda* 'hair,' Saija *puda* 'hair of head,' Tucura *puda* 'hair,' Chami *buda* 'hair,' Catio *buda* 'hair,' Waunana *pura* 'hair,' Eten *purr* 'feather,' Guambiana *pušug* 'hair,' Moguex *puču-guizik* 'hair,' Colorado *apiču* 'hair,' Quechua *p'huru* 'feather,' Aymara *phuyu* 'feather,' Cahuapana *ambolu* 'feather,' Tschaahui *amporo* 'feather,' Ubde-Nehern *pat* 'hair,' Dou *bata* 'head hair,' Papury *pad* 'hair,' Marahan *pat* 'hair,' Cubeo *pola* 'feather,' Palānoa *poali* ~ *poari* 'feather,' Waikina *poali* 'feather, hair,' Wanana *poali* 'feather,' Tucano *poali* ~ *poari* 'feather, hair,' Yupua *poa* 'feather,' Tuyuka *poa* 'feather,' Dyurumawa *pođa* 'hair,' Cayuvava *pote* 'feather,' Campa *ibiti* 'feather, hair,' Ipurina *piti* 'feather,' Machiguenga *ibiti* 'feather,' Quitemo *ipati-ko* 'feather,' Saliba *pule* 'hair,' Kandòshi *poro* 'hair, feather,' Chamacoco *ilepori* ~ *lapole* 'feather,' Yaruro *puru* 'feather,' Otomi *pāro* 'head hair,' Arawak *bala* ~ *bara* 'hair, feather,' Wayana *ipot* 'feather,' Jaricuna *ipo* 'feather,' Roucouyenne *īpoti* 'hair,' Cumanagote *ipotú* 'hair,' Aparai *ipoté* 'hair,' Waiwai *ke-poče* 'hair,' Chayma *ipot* ~ *ibot* 'hair,' Tamanaco *čipoti* 'hair,' Yabarana *čipotti* 'hair,' Apiaca *ire-put* 'hair,' Umana *putuhali* 'hair,' Urukueña *potuba* 'hair,' Witoto *ifote-say* 'hair,' Nonuya *ofotar(a)* 'hair,' Orejones *hupodiki* 'hair,' Galibi *apollire* 'feather,' Pavishana *ampulu* 'feather,' Pimenteira *uiu parū* 'feather,' *baburi* 'hair,' Ocaina *tyafóóro* 'feather,' Surinam *pēri* 'hair,' Lule *pyly* 'feather,' Moseten *beire* 'dance feather,' Cashibo *puiči* 'feather,' Chacobo *pīʔi* 'feather,' Shipibo *puei* 'feather,' Caripuna *poe* 'feather,' Panobo *bu* 'hair,' Mayoruna *pu* 'hair,' Conibo *bu* 'hair,' Cashinawa *bô* 'hair,' Pacawara *vo* 'hair,' Pitacho *epatoy* 'hair,' *potoitan* 'feather,' Macuni *potegneinang* 'feather,' Umotina *ibotoka* 'feather,' Krenye *ipry* 'feather,' Apinage *-niabru* 'arrow feather,' Guarapuava *preia* 'feather,' Bororo *parikko* 'feather,' *bu* 'hair,' Malali *pōe* 'feather,' Came *fere* 'feather,' Tibagi *fēre* 'feather.' [N 1:20; A 24, A 108, CA 45, EQ 42]

46. NOSTRATIC **p'uša* 'blow,' Proto-Indo-European **peus-* 'blow,' Proto-Uralic **puša-* 'blow,' Proto-Altaic **pusa-* 'blow' = AMERIND **putʔi* 'blow,' Oowekyala *piʔs-la* 'whistle,' Santa Ana Keres *pūtʔa* 'blow,' Biloxi *pūsuh* 'blow,' Coos *pəš* 'blow,' Central Sierra Miwok *puʂəl* 'mouth,' Northern Sierra Miwok *pūče* 'mouth,' Chukchansi *p'hōso?* 'blow,' Yahi *pus-* 'blow,' East Pomo

pušul 'blow,' Cocopa *pšux* 'blow,' Tipai *psul* 'blow,' Kiliwa *pisil* 'blow,' Tequistlatec *fušk-* 'blow,' Comecrudo *pasekiau* 'blow,' Taos *pʰutʰi* 'blow,' Proto-Uto-Aztecan **putʰ* 'blow,' Pipil *pitsa* 'blow,' Huichol *ipisiya* 'blow,' Itonama *i-pus-ne* 'blow,' Quechua *putʰu* 'blow,' Aymara *pʰusa* 'blow,' Tehuelche *xapš* 'blow,' Cholon *a-xeposan* 'blow on the fire,' Tambe *pezu* 'blow,' Tupy *o-pežu* 'blow,' Cumanagote *y-pizma-ze* 'blow,' Yagua *posató* 'blow,' Moseten *pisna* 'blow,' Amahuaca *pitʰi* 'blow.' [IS 339; A 42, AK 26, H 17]

47. NOSTRATIC **qotʰi* 'fire, set on fire,' Proto-Afro-Asiatic **ḥtʰ-/ḥt-* 'set on fire, catch fire,' Proto-Indo-European **Hēt-* 'fire, hearth,' Proto-Dravidian **otḷ-* 'kindle,' Proto-Altaic **ōti* 'spark, fire,' Korean *tha* 'burn,' Gilyak *tʰa* 'burn,' Proto-Eskimo **uuti-* 'burn, boil, roast,' Kuskokwim *ūtâ-* 'burn,' Aleut *ata* 'burn' = AMERIND **(?)oti* 'fire; to burn,' Proto-Keresan **ʔiri* 'be hot,' Acoma *idi* 'fire,' Seneca *aʔta* 'fire,' Blackfoot *ototo* 'to burn' (tr.), Wiyot *ad* 'fire,' *dōw* 'burn,' Proto-California Penutian **ʔitV* 'roast,' Proto-Uto-Aztecan **ta(h)i* 'fire, to burn,' Proto-Oto-Manguean **ntah* 'warm, fever,' Paez *otʰ* 'burn,' Tarascan *ete* 'burn,' Moseten *tʰi* 'fire,' Proto-Tacanan **ti* 'fire,' Proto-Panoan **čiʔi* 'fire,' Fulnio *to* 'burn,' Caraja *hæote ~ eoti* 'fire.' [N 343; E BURN4; A 112, P 192]

• Illich-Svitych (1967: 352) gave the reconstruction **Hotʰḷ*.

48. NOSTRATIC **tʰä* 'this, that,' Proto-Afro-Asiatic **ḷa-* 'this' (fem.), Proto-Kartvelian **te-/ti-* 'this, that,' Proto-Indo-European **to-/te-* 'this, that,' Proto-Uralic **tä-* 'this,' Yukaghir *tiḡ* 'this,' *taḡ* 'that,' Proto-Dravidian **tä-* 'this,' Proto-Altaic **tʰä-* 'that,' Ainu *ta-p* 'this,' Kamchadal *tiʔ-n* 'this,' Chukchi *ət-lon* 'he,' *ḷt-ri* 'they,' Siberian Yupik *ta-na* 'this' = AMERIND **ta ~ *ti* 'this, that, he⁵, Stage III article,' Chumash *t-* (Stage III article), Proto-Algonquian **-t-* (fossilized article linking personal pronouns and vowel stems), Subtiaba *d-* (Stage III article), Proto-Mayan **t-* 'he,' Yupua *ti* 'this,' Tucano *toho* 'that,' Ona *ta* 'he, they,' Lule *tita* 'he,' *te* 'this,' Mataco *ta* 'that,' Cherente *ta* 'he,' Caraja *ti* 'he.' [N I:7; E G11; A G13]

49. NOSTRATIC **talHḷ* 'shoulder,' Proto-Dravidian **tōḷ* 'shoulder, upper part of the arm,' Proto-Altaic **tālu* 'shoulder, shoulder blade' = AMERIND **ta(?)la* 'shoulder,' Nisqualli *talakʷ* 'shoulder,' Songish *tʰɛlaw* 'wing,' Musqueam *tʰɛleʔ* 'breast,' Quileute *taʔ* 'heart,' Shawnee *telja* 'shoulder,' Achomawi *tala* 'shoulder blade,' Salinan *itaʔl* 'shoulder,' North Yana *dul* 'neck,' Xinka *tafi* 'neck,' Ulua *salaχ* 'shoulder,' Lenca *thala* 'neck,' Tarascan *teru(-nhe-kua)* 'chest,' Chimu *altærr* 'neck,' Catio *osorro* 'throat,' Proto-Carib **mootali* 'shoulder,' Uitoto *emodo* 'back,' Yagua *namato* 'shoulder.' [IS 355; A 228, AK 32, H 77, CP 30 & 131, MC 59]

⁵ As used here, 'he' represents a third-person singular pronoun, without regard to gender.

• In the Macro-Carib forms **mo-* appears to be the demonstrative discussed in No. 29 above.

50. NOSTRATIC **t'an* 'chop off,' Proto-Indo-European **ten-* 'chop off,' Proto-Altaic **t'an* 'chop off' = AMERIND *t'an* 'cut,' Blackfoot *no-toan* 'knife,' Squamish *tláč-tən* 'knife,' Seshault *łeč'-tən* 'knife,' Nootsack *łáč'-tn* 'knife,' Tillamook *huq-tən* 'knife,' Lillooet *xʷəēk-tən* 'knife,' Sierra Popoluca *taŋ* 'cut down,' Jicaque *t'i* 'chop,' Kiowa *t'ā* 'cut,' Isleta *t'ē* 'cut,' Towa *t's'a?* 'cut,' Proto-Oto-Manguean **Htaʔn* 'break, cut, knife,' Viceyta *tionko* 'cut,' Tucano *tune* 'break,' Movima *tan-na* 'cut,' Mundurucu *t'ut'u* 'cut,' Nomachiguenga *tontimaro?* 'cut,' Botocudo *tan* 'break,' Coroado *tina(n)* 'knife.' [IS 352; CA 23]

51. NOSTRATIC **t'oga* 'burn,' Proto-Afro-Asiatic **t'kʷ* 'flame,' Proto-Indo-European **dhegʰh-* 'burn,' Proto-Uralic **täγλ(t)* 'fire,' Proto-Altaic **t'oga* 'fire,' Japanese *tuk* 'ignite, catch fire, burn,' *tak-* 'burn' (tr.), Gilyak *t'ukʷ* 'fire' = AMERIND **t'ek'a/t'ok'a* 'burn,' Shuswap *t'ik* 'fire,' Bella Bella *t'iʔk'il* 'burn,' Kwakiutl *t'exʲa* 'kindle,' Lkungen *čukku* 'burn,' Kutenai *t'sukʷ* 'start a fire,' Proto-Siouan **atʰex* 'burn,' Mohawk *-atek-* 'burn,' Huastec *tek* 'cook,' Tzotzil *tok'on* 'cooked,' Havasupai *tuka* 'burn,' Coahuilteco *tīxam(kō)* 'burn,' Warrau *doki-a* 'burn,' Timucua *toka* 'fire,' Colorado *tehe* 'firewood,' Natu *tika* 'burn,' Shukuru *itoka* 'burn,' Amarakaeri *taʔak* 'fire.' [IS 337; E BURN₃; A 54 & 251, AK 108]

52. NOSTRATIC **t'Ompa* 'protuberant, bulging, to swell,' Proto-Uralic **tumpa* 'protuberant, hill,' Cheremiss *tema* 'become full,' Hungarian *töm/tem* 'cram,' Yukaghir *čumu* 'all,' čemei 'finish,' Proto-Altaic **t'omp(λ)* 'protuberant, to swell,' Old Turkish *tüm-* 'completely,' Manchu *tome* 'all,' Ainu *tumak* 'be humpbacked,' Korean *tam* (< Middle Korean *tōm-*) 'all,' Japanese *tom* 'be rich in,' *tumu* 'heap,' Gilyak *tam* 'many,' Proto-Eskimo **tama* 'all,' Aleut *tamā* 'all' = AMERIND **tumpa* 'fill up, be full,' Cuitlatec *timpa* 'all,' Xinca *tumu* 'finish,' *tumuki* 'all,' Warrau *tobo* 'full,' Allentiac *topata* 'be full,' Cayapa *tuwa* 'full,' Move *debe* 'enough,' Motilon *tow* 'all,' Tucano *tubia* 'stop up,' Choroti *tipoi* 'be full,' Tacana *tupu* 'it reaches,' Lule *tump-s* 'finish,' Cavineña *tupu* 'enough.' [IS 335; E ALL₁; A 74, CP 83, MP 30]

53. NOSTRATIC **t'um* 'dark,' Proto-Afro-Asiatic **t'(w)m* 'dark,' Proto-Indo-European **tem(H)-* 'dark,' Proto-Uralic **tuma/tüma* 'opaque, dark,' Proto-Altaic **t'um* 'darkness, haze,' Korean *ətu(u)m* 'dark' = AMERIND **t'umak* 'dark, black, night,' Nootka *tum* 'black, dark,' Kutenai *tamoxu-intʰ* 'be dark,' Yurok *t'smey* 'be evening,' Keres *t's'amištʰ* 'dark,' North Sahaptin *č(ə)muk* 'black,' Nez Perce *tsimux-* 'black,' Klamath *č'mog* 'dark,' Yokuts *čimʔək* 'get dark,' Yaudanchi *čümgutān* 'black,' Wappo *sumūa?* 'evening,' Huchnom *sūm* 'night,' Coast Yuki *sem* 'night,' Chitimacha *t's'ima* 'night,'

Atakapa *tem* 'night,' Koasati *tamōxga* 'night,' Mixe *t^soʔm* 'night,' Zoque *tsuʔ* 'night,' Sayula *tsuʔxit* 'evening,' Huastec *t^samul* 'night,' Chimariko *himok* 'evening,' Salinan *smak'ai* 'night,' Esselen *tumas* 'dark,' Seri *iʔamok* 'night,' Coahuilteco *čum* 'night, evening,' Jicaque *pox-tumo* 'dark,' Mono *tummuʔani-ki* 'black,' Cora *šumoa* 'black,' Mixtec *túú* 'black,' Amuzgo *matuma* 'evening,' Xinca *t^suma* 'black,' čijmak 'night,' Chiquimulilla *suʔmax* 'black,' Yupultepec *ts'yōma* 'night,' Chibcha *suameca* 'evening,' Miskito *timia* 'night,' Ayoman *tem* 'black,' Nonama *teamasi* 'black, night,' Catio *teamasi* 'night,' Araucanian *dumi* 'dark,' Jaqaru *č'ama* 'nightfall,' Papury *tyum* 'night, evening,' Hubde *čomai* 'dark,' Ubde-Nehern *čemmai* 'night,' Curiariai *čəm* 'night,' Itene *tomi* 'black,' Caranga *sumči* 'dark,' Chipaya *somči* 'dark,' Callahuaya *thami* 'dark, night,' Kulina *dzome* 'night,' Urupa *etim* 'night,' Bakairi *tamayeneŋ* 'black,' Moseten *tomage* 'dark' (n.), *tomo* 'night,' Malali *aptom* 'night,' Chavante *tomanmara* 'night,' Chiquito *timimi-s* 'evening.' [N I:36; E DARK₃; A 76]

54. NOSTRATIC **t'upa* 'spit,' Proto-Afro-Asiatic **t(w)p* 'spit,' Proto-Kartvelian **t'ʌb-* 'spit,' Proto-Indo-European **pt(j)eu* (< **tp(j)eu-*) 'spit,' Proto-Dravidian **tupp-* 'spit,' Proto-Altaic **t'upy-* 'spit,' Japanese *tuba(ki)* 'spittle,' Ainu *tupe/topse* 'spit' = AMERIND **tupa* 'saliva,' Tutelo *čəpā* 'saliva,' Keres *šupɪ* 'I spit,' Acoma *šupə* 'saliva,' Laguna *šup'šup* 'spit,' Patwin *tuba* 'spit' (v.), Choctaw *tufa* 'saliva,' Creek *tufkita* 'spit' (v.), Koasati *tufka* 'spit' (v.), Yucatec *tub* 'saliva,' Mam *tsup* 'saliva,' Tzotzil *tubal* 'saliva,' Quiché *č'ubinik* 'saliva,' Tewa *sóp'oh* 'saliva,' Nonama *ičituba* 'spit' (v.), Pehuenche *tufcun* 'spit' (v.), Saliba *čuva* 'saliva,' Wapishana *supit* 'spit' (v.), Urupa *çupe* 'saliva,' Culino *nasop^he* 'his saliva,' Witoto *tuva* 'spit' (v.), Moseten *čep* 'saliva.' [IS 354; E SPIT; AK 160]

55. NOSTRATIC **-t'ʌ* (causative), Proto-Afro-Asiatic **tʌ-/t-* (reflexive), Proto-Dravidian **-tt-* (causative), Proto-Uralic **-tt-/t-* (causative, reflexive), Yukaghir *-te-* (denominative), Proto-Altaic **-t-* (causative), Korean *-thi* (causative), Japanese *-t* (causative), Ainu *-te* (causative), Gilyak *-d* (denominative), Chukchi *-et* (denominative), Kamchadal *t-* (causative), Eskimo *-ta/-ti* (causative), Aleut *-ti* (causative) = AMERIND *t(?)u* (causative), Seneca *-ʔt-* (causative), Keres *-tu* (makes actions out of statives), Wiyot *-at* (transitivizer), Salish *-t* (transitivizer), Kutenai *-n't* (action by hand), Kwakwala *-d* (transitivizer). [N I:13; E G49; A G92]

56. NOSTRATIC **t'ʌbʌ* 'suitable, appropriate,' Proto-Afro-Asiatic **t'jb/t'wb* 'good, fragrant,' Proto-Indo-European **dhabh-* (< **tabh-*) 'suitable, appropriate' = AMERIND **t^supa* 'good,' ?Nisqualli *tlob* 'good,' San Juan Bautista *tappan* 'good,' Yana *t^sup* 'be good,' Salinan *t^sep* 'good,' Coahuilteco *sap'ān* 'good,' Eten *t^sup* 'good,' Guambiana *tabig* 'good,' Nadobo *čabe* 'good,' Coche *čaba* 'good,' Trumai *t^sipom* 'good,' Manao *sabi* 'good.' [IS 355; A 131]

57. NOSTRATIC *ʔeja 'come, go,' Proto-Afro-Asiatic *j 'come,' Proto-Indo-European *h₁e- 'go,' Proto-Ugric *je(γ)- 'come,' Proto-Dravidian *ej- 'arrive, approach,' Proto-Altaic *i- 'arrive, enter' = AMERIND *jaʔ 'go, come,' Proto-Central Algonquian *jā 'go,' Upper Chehalis ja 'road,' Catawba jā 'road,' Wishram ja 'go,' Choctaw ia 'go,' Alsea jax 'go,' Tsimshian jē 'go,' Wappo -ja- 'go,' Karankawa je 'go,' Tonkawa jaʔa 'several move,' Washo ijeʔ 'he goes,' Yana aja 'go,' Proto-Aztec-Tanoan *ja 'to go, carry,' Proto-Oto-Manguean *(n)ja(n) 'road,' Motilon ja 'walk,' Timucua eje 'road,' Chibcha ie 'road.' [N 130; E GO; A 128]

• In Illich-Svitych (1967: 357) the reconstruction was given as *je(HA).

58. NOSTRATIC *ʔi/ʔe 'this, he,' Proto-Afro-Asiatic *j 'this, he,' Proto-Kartvelian *(h)i/(h)e 'that,' Proto-Indo-European *h₁e-/h₂e- 'this, he,' Proto-Uralic *i-/e- 'this,' Proto-Dravidian *i/ē 'this,' Proto-Altaic *i-/e- 'this, he,' Korean i 'this,' Japanese i-ma 'now,' Ainu i- 'his, him,' Gilyak i-/e- 'his, him' = AMERIND *(ʔ)i 'he, this, the,' Chinantec ʔi 'he,' Tewa ʔiʔ 'he,' Mono ʔi-hi 'this,' Borunca i ~ iæ 'he,' j- 'his,' Lenca i(-na) 'he,' i- (indef. obj.), Cuna i- (indef. obj.), Bribri i- (indef. obj.), Chiquito i- 'his,' Kraho iʔ- 'his,' Guarani i- 'he, his.' [N 1:8; E G8; A G12]

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Amerind MALIQ'A 'Swallow, Throat' and Its Origin in the Old World

*For Joseph H. Greenberg,
on the occasion
of his 75th birthday,
May 28, 1990*

Probably the central myth of twentieth-century historical linguistics has been the belief that the comparative method is limited to a relatively short time depth—usually put at 5,000–10,000 years—beyond which all trace of genetic affinity has been erased by unrelenting waves of semantic and phonological change.* According to R. M. W. Dixon (1980: 237), “Generally, languages change at such a rate that after more than about three or four thousand years of separation genetic links are no longer recognizable.” James Matisoff puts the boundary at 6,000 years (Matisoff 1990: 108), Hans Hock (1986: 566) opts for 7,000 years, and Terrence Kaufman (1990: 23) would extend the limits to around 8,000 years: “A temporal ceiling of 7,000 to 8,000 years is inherent in the methods of comparative linguistic reconstruction. We can recover genetic relationships that are that old, but probably no earlier than that.” Finally, according to Sarah Thomason (to appear), “10,000 years is the standard guess about the outer limits of the applicability of the Comparative Method.” Although one can only admire the precision these scholars have brought to determining the limits of comparative linguistics, one may legitimately ask what is the basis for this dating, whichever figure one chooses. Though I be-

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lieve Thomason is correct—the figures are all just guesses—what exactly are these guesses based on? And why do such “guesses” range from 3,000–10,000 years, and not, say 40,000–50,000 years?

The main reason, I believe, is the *presumed* age of the Indo-European family itself, which has traditionally been put very close to these stated limits of the validity of comparative linguistics. Thus the fact that Indo-European cannot be shown to be related to any other family—yet another cherished myth—both establishes, and is “explained” by, the known limits of the comparative method in linguistics. This same (transparently circular) reasoning has been used by Americanists to argue that Joseph Greenberg’s proposal of an Amerind family cannot be valid, because archaeologists agree that the Americas have been inhabited for more than 10,000 years, and the comparative method is valid only up to about 10,000 years, or, as Kaufman (1990: 26) puts it, “the proof of a common origin for the indigenous languages of this hemisphere is not accessible to the comparative method as we know it.” All of these arguments, it must be stressed, are based on appeals to *archaeology*; no *linguistic* evidence points to *any* particular limits on the comparative method.

There is yet another “archaeological” argument for the limits of comparative linguistics, namely, the fact that there are no perceived connections between Old World languages and New World languages. Since the Americas are known through archaeological evidence to have been initially inhabited at least 12,000 years ago—and some anthropologists today would say 18,000 years or more—clearly no similarities between Old World languages and New World languages *could* survive after all this time, given what is “known” of the limits of the comparative method. In sum, the postulated “limits” of the comparative method have been determined by the “special status” of Indo-European, a family supposedly with no known relatives, and by the “archaeological evidence” showing that the peopling of the Americas occurred at too early a date for comparative linguistics to be of any value.

Such a tight fit between the archaeological evidence and the linguistic evidence could hardly have been anticipated. But *is* it really a tight fit, or just a gentleman’s agreement? With regard to the age of Indo-European, the archaeologist Colin Renfrew (1987: 166) has recently written that “the dispersal [of Indo-European-speaking people] is thus set around 2500 B.C. This date is not based on any clear linguistic argument; it is not really a linguistic argument at all. It is a conclusion based upon consensus. Yet it is taken by archaeologists as linguistic evidence, and is used by them to support that very consensus. There is therefore a complete circularity. And in this case it would appear that the consensus may be in error.” But if the age of Indo-European is in error, then the perceived limitations of the comparative method may also be in error.

In fact, the idea that Indo-European is unrelated to any other family has been demonstrated to be false by the Russian Nostraticists (Illich-Svitych 1971-84, Dolgopolsky 1984), by Greenberg (to appear), and by numerous precursors, and such an extreme position has in recent years been declining in acceptance. Of course the finding that Indo-European is related to other families is scarcely a new discovery. At the beginning of this century Henry Sweet (quoted at length in Chapter 6 herein) ridiculed the narrow-mindedness of Indo-Europeanists in doubting these relationships, in terms that, regrettably, are as apt today as they were then.

And around that same time Alfredo Trombetti (1905: 44) criticized the methodological inconsistency of the Indo-Europeanists in equally stark terms: "It is clear that in and of itself the comparison of Finno-Ugric *me* 'I,' *te* 'you' with Indo-European *me*- and *te*- [with the same meaning] is worth just as much as any comparison one might make between the corresponding pronominal forms in the Indo-European languages. The only difference is that the common origin of the Indo-European languages is accepted, while the connection between Indo-European and Finno-Ugric is denied."

In what follows I will argue that all of these notions—that Indo-European is not known to be related to any other language family, that Amerind languages cannot be shown to derive from a common source, and that there are no recognizable genetic connections between language families of the Old and New Worlds—are false. By examining a single etymology in some detail I will attempt to show that it is indeed possible to trace the evolution of a single root from North Africa, through Europe and Asia, and across the Americas. Let us begin by considering the following Amerind etymology for the root *MALIQ'A 'swallow, throat':

AN AMERIND ETYMOLOGY

ALMOSAN: Salish: Proto-Salish **məq* 'eat one's fill,' Chehalis *mq*^w 'swallow,' Lower Fraser *məlq*^w 'throat,' Pentlatch *məkwəm* 'swallow,' Nisqualli *omikalekw* 'swallow,' Columbian *məlq* ~ *enmellik* 'tongue'; Wakashan: Nootka *muk*^w 'swallow,' Kwakwaka *młχ*^w-*ʔid* 'chew food for the baby,' *młq*^w-*a* 'moisten the fingers with the tongue,' Heiltsuk *młqva* 'chew food for baby,' *młχv-baút* 'lick the end of something,'; Algic: Yurok *mik*^w-*olum* 'swallow'; Kutenai *uʔmqoʔ* 'swallow.'

PENUTIAN: Chinook: Chinook -*móku*- 'throat,' *młq*^w-*tan* 'cheek,' Wishram *ō-mēq*^w 'lick'; Oregon: Takelma *mülk* 'swallow,' Proto-Kalapuya **milk* 'swallow' (v.), Tualatin *milk* ~ *młq* 'swallow,' *milk*-*wan* 'swallow,' Santiam *milk* 'swallow,' Yonkala *k'andít-mílik* 'I swallowed it'; Plateau: North Sahaptin

malqmat 'lick,' Molala *mil* 'throat'; California: Yokuts *mōk'i* 'swallow,' *mik'-is* 'throat,' Yaudanchi *mōk* 'swallow,' *müküs* 'throat'; Gulf: Proto-Muskogean **mil* 'swallow,' Tunica *milu* 'choke,' *miru* 'swallow,' Atakapa *mol* 'gargle,' Wappo *malék'e?* 'swallow it,' Coast Yuki *mekup* 'throat,' Huchnom *meka* 'drink,' Yuki *mi* 'drink'; Mexican: Mixe *amu?ul* 'suck,' Zoque *mu?k* 'suck.'

HOKAN: Chumash: Santa Ynez *aqmil* 'drink' (? = *aq-mil* 'water-swallow'), Santa Cruz *akmil* 'drink'; Yuman: Yuma *mal'jaqé* 'neck,' Walapai *malqi* 'throat, neck,' Havasupai *milqé* 'throat,' Yavapai *melqí* 'neck,' Mohave *mal'jaqé* 'throat,' Akwa'ala *milqí* 'neck,' Paipai *milqí* 'neck' (cf. also the obviously related Yuman forms where the initial nasal has assimilated the palatal nature of the following lateral: Yuma *an^jil'q* 'swallow,' Walapai *mi-n^jalq* 'swallow,' Diegueño *we-n^ja^tq* 'swallow,' Havasupai *k^we-n^jálqika* 'swallow,' Akwa'ala *n^jelq* 'swallow,' etc.); ?Tlappanec *māga'ηqo* 'swallow.'

CHIBCHAN: Cuitlatec *e?meli* 'eat,' Cuna *murki-makka* 'swallow,' *murgi murgi sae* 'swallow food.'

ANDEAN: Quechuan: Cochabamba *malq'a* 'throat,' Huaraz *mallaqa* 'be hungry'; Aymara *maλq'a* 'swallow, throat' (probably a borrowing from Quechua); ? Cholon *amok* 'eat.'

MACRO-TUCANOAN: Curetu *mouku* 'drink,' Ticuna *mi* 'drink,' Iranshe *moke?i* 'neck.'

EQUATORIAL: Guamo *mirko* 'drink,' Arawak *amüküddun* 'swallow,' Callahuaya *maλk'a* 'throat' (almost certainly a loan from Quechua or Aymara).

MACRO-CARIB: Surinam *e?mōkí* 'swallow,' Faaí *mekeli* 'nape of the neck,' Kaliana *imukulali* 'throat.'

One of the Penutian etymologies proposed by Greenberg (1987: 159) connected the Oregon and Gulf (excluding Yuki-Wappo) forms listed above in an etymology glossed 'swallow.' If the triconsonantal root of the Northwest Coast Penutian languages is archaic, then the original form might be reconstructed as *M-L-K' (or *M-L-Q', if the uvular consonant is original). Furthermore, one of the Amerind etymologies proposed by Greenberg (No. 252), also glossed 'swallow,' connected some of the Almosan forms shown above (Pentlach, Nisquali, Yurok, and Kutenai) with certain Penutian forms (Chinook, Yokuts, Coast Yuki, Huchnom). Some of the Almosan forms (Kutenai, Yurok, Nisquali) also suggest a triconsonantal root that might be reconstructed as *M-K'-L or *M-Q'-L, while the Wakashan forms retain the original order of the consonants, also preserved in Penutian. Given the virtual semantic identity of all these forms—and the fact that they appear to be based on a triconsonantal root that has metathesized the final two consonants in some Amerind subgroups—it seems more than likely that all these forms are historically related and should be joined in a single etymology.

Additional material taken from Greenberg's unpublished Amerindian notebooks (Greenberg 1981) provides further support for the Amerind nature of the root in question. Of prime importance is the existence of the root in the Yuman branch of Hokan (Arizona) and the Quechuan (and perhaps Aymara¹) branch of Andean (Peru, Ecuador, Bolivia). In Yuman the root is *M-L-K or *M-L-Q, whereas in Quechuan it is *M-L-Q' or *M-L-Q. Moreover, Cuna (a Chibchan language spoken in Panama) and Guamo (an Equatorial language of Venezuela) both exhibit the form *M-R-K. In the broader Amerind context we can see clearly that metathesis has occurred sporadically in Almosan and Macro-Carib, but the original order, *M-L-K', is too widely attested within Amerind to be doubted.

THE ORIGIN OF THE AMERIND ROOT

There are, moreover, indications that this particular root is not restricted to the Americas, but exists in Eurasia and perhaps North Africa as well. Illich-Svitych (1976: 57) reconstructed Proto-Nostratic **mālgi* 'chest, udder' on the basis of Afro-Asiatic, Indo-European, and Uralic evidence. For Afro-Asiatic he posited **mlg* 'breast, udder, suck' to account for Arabic *mlġ* 'to suck the breast' and Old Egyptian *mnḏ* (< **mlg*) 'woman's breast, udder.' Illich-Svitych compared these forms with Proto-Indo-European **melǵ-* 'to milk' and Proto-Uralic **māl̥ye* 'breast, thorax.' Rédei (1986: 267) suggests a slightly different reconstruction, Proto-Finno-Ugric **mälke* 'breast,' representing forms like Saami *mielgâ* 'breast, chest,' Mordvin *mälhkä* 'breast,' Vogul *mägl* 'breast' (with metathesis), and Hungarian *mell* 'breast.' Collinder (1977: 14) and Rédei (1986: 267) consider all these (and other) forms to be related. Furthermore, both Collinder and Rédei suggest that Yukaghir *meḥu(t)* 'chest' may be related to the Uralic forms.

The Indo-European root is particularly interesting, for it illustrates how the failure of Indo-Europeanists to consider the extra-Indo-European context has led them to erroneous conclusions concerning both the semantic development and the phonological structure of Indo-European itself. The traditional reconstruction by Pokorny (1959: 722), **melǵ-* 'to milk, milk' reflects forms such as Greek *ἀμέλω* 'to milk,' Latin *mulg-ēre* 'to milk,' Irish *bligim* 'to milk,' *mlicht* 'milk,' Gothic *miluks* 'milk,' Old Norse *mjolka* 'to milk,' English 'to milk, milk,' Lithuanian *milžti* 'to milk,' Old Church Slavonic *mlěsti* 'to milk,' *mlěko* 'milk,' Albanian *mjellë* 'to milk,' Tocharian A *mālk-lune* 'milk-ing,' *malke* 'milk,' and Tocharian B *mark-wer* 'milk,' as well as Sanskrit *mṛj-* 'wipe, stroke,' and Avestan *marəz-* 'touch.'

¹ The difficulties of distinguishing loanwords from common inheritance (or determining even the direction of loans) with regard to Quechua and Aymara are notorious.

The traditional explanation for the semantic development of this root has been that the Indo-Iranian meaning—'to wipe, stroke, rub'—was the original one, and that the development of RUB > MILK was an innovation characterizing European languages (Walde and Pokorny 1930, 2: 298). The extra-Indo-European context shows quite clearly that this semantic development—if it took place at all—worked in the opposite direction, since it is now clear that the Indo-European notion of 'milking' derives from the general Eurasiatic/Nostratic word for nursing, suckling, and the female breast. Any connection with rubbing and wiping must be thoroughly secondary. In fact, I am inclined to doubt, as did Illich-Svitych (1976: 58) and Gamkrelidze and Ivanov (1984: 569), that the Indo-Iranian root **marǵ-* 'to rub, wipe' has anything at all to do with Proto-Indo-European **melǵ-* 'to milk.'

In his discussion of this etymology Illich-Svitych (1976) notes that "Proto-Indo-European *ǵ* in place of the expected *ǵh* is unclear" (p. 58). The reason *ǵh* is expected, rather than *ǵ*, is that, according to Nostratic sound correspondences, Proto-Indo-European *ǵ* derives from Proto-Nostratic *k*, not from Proto-Nostratic *g*, which Illich-Svitych reconstructs for this root. It has long been known that the traditional reconstruction of the Proto-Indo-European stop system—with the three series *k*, *g*, and *ǵh*—is typologically implausible; such systems are not found in any existing languages. In order to remedy this (and other) problems with the traditional reconstruction, Thomas Gamkrelidze and Vyacheslav Ivanov (1972) and Paul Hopper (1973) independently arrived at the same solution to these problems. They proposed that the three series of Proto-Indo-European stops be reinterpreted as *k*, *k'*, and *g*. Recently Allan Bomhard (1984, 1991) has begun investigating Nostratic using the glottalic interpretation of the Proto-Indo-European consonantism. According to the glottalic theory the Proto-Indo-European root under discussion should be reconstructed as **melk'* (Gamkrelidze and Ivanov 1984: 569), whose velar ejective perfectly matches that of the Amerind forms enumerated above. When considered in the wider context—and in the light of the glottalic theory of Proto-Indo-European consonantism—the "unexpected" *ǵ* of **melǵ-* becomes the expected *k'* of **melk'*.

There is additional evidence in Dravidian for the root in question. Burrow and Emeneau (1984: 459) group all of the following forms under etymology No. 5077: Tamil *melku* 'to chew, masticate,' Malayalam *melluka* 'to chew, champ,' Toda *melk* 'mouthful,' Kannada *mellu* 'to chew, masticate, eat with a muttering sound,' *melaku* 'bringing up again for rumination,' Telugu *mekku* 'to eat, gobble,' Gadba *mekkap-* 'to eat like a glutton.' The original meaning of 'nurse, suckle' appears lurking just below the surface in all these forms. Conspicuously absent from this etymology are any reflexes in the Kurux-Malto subgroup, generally regarded as the most divergent branch of Dravidian after

the Brahui language of Pakistan. Yet there is another etymology in Burrow and Emeneau's dictionary, No. 5080, that I believe should be combined with the forms cited above: Kurux *melkhā* 'throat, neck' and Malto *melqe* 'throat.' It would appear that the Kurux-Malto branch has undergone a semantic shift typologically parallel to that which took place in Amerind.

There are also reflexes of this root in the Eskimo-Aleut family, which some Nostraticists include in Nostratic (Dolgopolsky 1984) and which Greenberg includes in his similar, but not identical, Eurasiatic family.² For example, in the Kuskokwim dialect of Central Yupik we find forms such as *milugā* 'sucks it out,' *milūgarā* 'licks (or sucks) it; kisses it (a child),' and *mulik* 'nipple'; similar forms may be found in the various Inupiaq dialects scattered from northern Alaska to Greenland. Aleut *umlix* 'chest, groin' probably also belongs with the Eskimo forms given above. As with the Dravidian forms, the notion of nursing a child is but a step away from the common Eskimo meanings.

On the other side of Bering Strait the Chukchi-Kamchatkan family has a root that might belong with the etymology under discussion in Proto-Chukchi-Kamchatkan **pilxə-* 'throat, food' (Mudrak 1989: 104), though the change *m > p* is for the moment unexplained.

Finally, we should note that in their reconstruction of Proto-Caucasian, Nikolaev and Starostin (1992: 142) posit a root **mVq'VIV* 'throat, larynx' to account for forms such as Tindi *maq'ala* 'throat' and Bezhta *ris-muq'* 'throat.' Since Caucasian is a family renowned for metathesis, it seems likely that the Proto-Caucasian form represents a metathesized form of the root discussed here.

CONCLUSIONS

The foregoing has traced the evolution of a single verbal root through a large number of supposedly "unrelated" families. We might reconstruct the original form and meaning of this root as **M-L-K* 'nurse, suckle, female breast.' Phonologically, the triconsonantal nature of the root is preserved in Afro-Asiatic, Caucasian, Indo-European, Uralic, Dravidian, Eskimo-Aleut, and Amerind. Afro-Asiatic preserves the original meaning, which has taken on slightly different connotations elsewhere. In Indo-European the meaning shifted from 'nursing' to 'milking' and, finally, in only a few branches, the product itself, 'milk.' In Uralic the meaning of 'breast' persists, but the verbal notion of 'nursing' has been lost. Both Dravidian and Eskimo-Aleut present

² For the differences between Nostratic and Eurasiatic—and the origin of these differences—see Chapter 1 and Chapter 10. Greenberg (to appear) posits a root under BREAST that encompasses the Indo-European, Uralic, and Eskimo-Aleut forms discussed here.

meanings only a shade different from nursing. In Dravidian the meaning is basically 'chew, eat (like a baby),' while in Eskimo-Aleut it is 'suck, lick, kiss, nipple.' A semantic innovation in Amerind characterizes the entire family, and at the same time distinguishes it from Eurasiatic/Nostratic: in Amerind the root lost all connotation of nursing (except in Wakashan?), becoming instead the general Amerind word for 'swallow' and 'throat.' A typologically similar development also occurred in Caucasian, if the root discussed above is truly cognate with the other forms.

As is well known, similarities in sound and meaning may have one of four explanations: onomatopoeia, chance, borrowing, or common origin (Greenberg 1957). I am aware of no suggestions in the linguistic literature that there is any intrinsic connection between the sounds and meanings discussed here. Furthermore, the fact that the root is found only in Amerind and Eurasiatic/Nostratic (and perhaps Caucasian) argues against an onomatopoeic explanation, as does the fact that the meaning varies slightly from family to family in semantically natural ways.

The role that chance resemblance plays in causing such similarities has been much bandied about by Greenberg's critics, who greatly exaggerate the frequency of this phenomenon. Many have offered their favorite chance resemblance, but all are invariably *binary* comparisons of *biconsonantal* roots. I have chosen to investigate a *triconsonantal* root that is found in no less than six "unrelated" families from Africa to the Americas for the simple reason that an explanation of chance is virtually ruled out from the start. (For more on the notion of chance resemblance, see Chapter 14 herein.)

As early as 1957 Greenberg emphasized that "while in particular and infrequent instances the question of borrowing may be doubtful, it is always possible to tell whether a mass of resemblances between two languages is the result of borrowing" (Greenberg 1957: 39), the two most important factors being outgroup comparison and the semantic nature of the borrowed items. In the present case the vast distribution of the root—which is also a part of the fundamental vocabulary, not a culture item easily borrowed—precludes any serious consideration of borrowing.

With all other possible explanations eliminated, we may conclude that we are here dealing with a case of common origin. There is no other sensible explanation for the facts outlined. Nor should one imagine that the lexical item discussed above is an isolated example. Recent work has shown, contrary to the cherished myths of many twentieth-century linguists, that there are *numerous* genetic connections between supposedly unrelated language families, if one is willing to take off the blinders (a summary of this work is given in Chapter 1). In particular, the resemblances between Amerind and Eurasiatic/Nostratic, above and beyond the etymology discussed in this paper, are

abundant (see Chapters 10 and 14), and the linguistic family thus defined corresponds very closely to the vast North African–North Eurasian–Amerind population defined by Cavalli-Sforza et al. (1988) on the basis of the distribution of human genes.

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First- and Second-Person Pronouns in the World's Languages

It has long been known that first- and second-person singular pronouns are among the most stable meanings in language. Of the two, Aron Dolgopolsky (1986: 34) found that the first-person pronoun is the most stable meaning, and the second-person pronoun the third most stable. An immediate consequence of this stability has been the recognition by some linguists that pronouns are often indicative of deeper genetic connections. As we have seen elsewhere in this volume, both Henry Sweet and Alfredo Trombetti objected that the M/T 'I/you (sg.)' pronominal pattern, which is considered characteristic of Indo-European by all Indo-Europeanists, also occurs in neighboring families such as Uralic, Mongolian, Tungus, Gilyak, Chukchi-Kamchatkan, and Eskimo-Aleut. One (but not both) of these pronouns also occurs in Kartvelian, Turkic, Korean, and (Old) Japanese. This larger grouping, embracing all these groups and others, is defined essentially by the M/T pronominal pattern (though there is abundant additional evidence—grammatical and lexical—to confirm this initial conclusion), and it is the family called Eurasiatic by Joseph Greenberg and Nostratic by Russian scholars (and their non-Russian disciples). Pronouns have thus played a crucial role in debunking the myth of Indo-European's splendid isolation.

At the same time, pronouns have also been a central focus in the recent debate between Greenberg and his critics over the validity of Amerind (see Chapter 1). Greenberg (1987) claimed that the N/M 'I/you (sg.)' pronomi-

nal pattern—which had been previously noted by Trombetti, Edward Sapir, Morris Swadesh, and others—characterizes the Amerind family, and he presented evidence for this pattern from all eleven Amerind subgroups. In fact, a genetic explanation of this pattern was advocated as early as 1905, by Trombetti: “As can be seen, from the most northern regions of the Americas the pronouns NI ‘I’ and M ‘thou’ reach all the way to the southern tip of the New World, to Tierra del Fuego. Although this sketch is far from complete, due to the insufficient materials at our disposal, it is certainly sufficient to give an idea of the broad distribution of these most ancient and essential elements” (p. 208). A decade later Sapir too (1918; quoted in Darnell and Sherzer 1971: 27) was startled to find these two pronouns throughout the Americas, remarking, “Getting down to brass tacks, how in the Hell are you going to explain general American *n*- ‘I’ except genetically? It’s disturbing, I know, but (more) non-committal conservatism is only dodging, after all, isn’t it? Great simplifications are in store for us.”

A genetic explanation of the N/M pronominal pattern was anathema to Sapir’s mentor, Franz Boas, who favored diffusion of linguistic elements over common origin (see Chapter 6). The pronouns were, however, troublesome, since such grammatical elements are not known to diffuse, and Boas could do no better than to attribute them to “obscure psychological causes” (quoted in Haas 1966: 102). In the recent attack on *Language in the Americas* Greenberg’s critics have offered even more fanciful explanations for the American pattern, attributing the N and M pronouns to the sucking reflex of nursing babies, or to an archaic residue of sounds that will quite naturally appear after long periods of time. Both putative “explanations” fail to come to grips with the fact that this particular pattern is characteristic of the Americas and rare or nonexistent elsewhere around the world. One can only wonder why the infant sucking sounds of African and Australian children have not produced the same pronouns found in the Americas.

What follows attempts to survey the first- and second-person pronouns in the world’s languages. For each family I have consulted the basic sources in order to determine what pronouns have been posited for that family by specialists. Reconstructed pronouns are preceded by an asterisk; in families where reconstruction has not yet been carried out, pronouns that are widespread are cited without an asterisk. Roots presumed to be distinct are separated by ||, and alternate forms of the same root are separated by ~. First-person inclusive pronouns are indicated by [i]; exclusive pronouns, by [e]; and dual pronouns, by [d]. Lack of information following a language family indicates either that no such pronoun has been reconstructed for that family, or that no widespread pronoun has been identified for that family, or, in the case of extinct languages, that no such pronoun is attested.

THE PRONOUN "I"

KHOISAN: *tii || ŋ ~ na ~ ni || *mi ~ *ma

NILO-SAHARAN: *ak^wai

KORDOFANIAN: *ŋi

NIGER-CONGO: i ~ (m)i ~ (n)i || a ~ (n)a

AUSTRALIAN: *ŋay

INDO-PACIFIC: na || ta || ka || ya || bo ~ mo || u ~ -w

MIAO-YAO: *ku(ŋ) || *weŋ || *ia

AUSTROASIATIC: *joo || *eŋ || *i

DAIC: *ku || *ʔi ~ *ya ~ *i

AUSTRONESIAN *aku || *ʔa(ŋ)kən

FORMOSAN: *aku

MALAYO-POLYNESIAN: *aku || *ʔa(ŋ)kən

BASQUE: ni ~ neu

CAUCASIAN: *ð̃ || *ñ

WEST: *se ~ *sa

EAST: *swo ~ *zu(n) || *di(n) ~ *du ~ *tu

†HURRIAN: se- ~ es- || -iww

†URARTIAN: ješə ~ šo || -u

†HATTI: se- ~ es-

BURUSHASKI: jε ~ ja || mi ~ mo || aiya

NAHALI: juo || eŋge

SINO-TIBETAN: *ŋa || *-ka

CHINESE: *ŋo

KAREN: ja (< *ŋa)

TIBETO-BURMAN: *ŋa ~ *ŋay ~ aŋ ~ aŋ-ka ~ ka-ŋa || *-ka

YENISEIAN: *ʔaj

NA-DENE: *šwí

HAIDA: t^la || tea ~ dia

TLINGIT: khut ~ hut

EYAK: chuu || hütak

ATHABASKAN: *šwí

AFRO-ASIATIC: *an ~ *anāku || ʔ ~ a || u || i

†ETRUSCAN: mi ~ mi-ni

†SUMERIAN: ma

KARTVELIAN: *me(n) || *xw-

DRAVIDIAN: yan || i ~ y- || ka ~ kan || ut

ELAMITE: u ~ un ~ u- || -kə

INDO-EUROPEAN: *me || *eg || *k

URALIC-YUKAGHIR: **me* || **k*
 ALTAIC: **mi* ~ **bi*
 KOREAN-JAPANESE-AINU: *mi* || *na*
 GILYAK *ñi* ~ *ñ-*
 CHUKCHI-KAMCHATKAN: -*m* || -*ka*
 ESKIMO-ALEUT: -*ma* || -*ka*
 AMERIND: *na*(?) || ?*i*
 ALMOSAN: **ne-*
 KERESIOUAN: *hinu* || *i?i*
 PENUTIAN: *nV* || ?*i* ~ *hi*
 HOKAN: *na*
 CENTRAL AMERIND: *nV*
 CHIBCHAN: *na* || *hi* ~ *i*
 PAEZAN: *na* || *i*
 ANDEAN: *na* || *hi* ~ *i*
 MACRO-TUCANOAN: *hi* ~ *yi*
 EQUATORIAL: *nV* || *hi* ~ *he* ~ *yi* ~ *e*
 MACRO-CARIB: *awe* ~ *owi*
 MACRO-PANOAN: *nV* || *i* ~ *e* ~ *ye*
 MACRO-GE: *nV* || *he* ~ *i*

THE PRONOUN "WE"

KHOISAN: *?*i* ~ *?e [i] || **si*(*i*) [e] || **m-* [i]
 NILO-SAHARAN:
 KORDOFANIAN:
 NIGER-CONGO:
 AUSTRALIAN: **ñā* [d] ~ **ñi-rrə* [e] || **ŋa-rrə* [i] ~ **ŋali* [d] ~ **ŋana*
 INDO-PACIFIC: *ni* ~ *na* || *pi* ~ *me* [i] || *ki* || *ti*
 MIAO-YAO: *pe* ~ (*m*)*pua*
 AUSTROASIATIC: **ai* [d] || **he*(*i*) [i] || **bi*(*n*) [i] || **ye*(*h*) [e] || **le* ~ **ne* [e]
 DAIC: *raw* [i] ~ *ra* [d] ~ *ta* [e] ~ *tau* [i] ~ *daw* || *tu* [e]
 AUSTRONESIAN (*k*)*ita* [di] ~ *ita* [i] ~ -*nta* [i] || (*k*)*ami* [e] ~ *ami* [e] ~ -*mai* [e]
 FORMOSAN:
 MALAYO-POLYNESIAN:
 BASQUE: *gu* ~ *geu*
 CAUCASIAN: **ḡü* [i] || **ži* [e]
 WEST: *ha* || *š'ə* || *te* ~ *de*
 EAST: *čun* ~ *uču* ~ *žu* ~ *tχuo* [e] || *niž* ~ *nen* ~ *nuša* || *ja* ~ *jin* ~ *jan* [i]
 || *išši* [e] || *waj* [i] || *it'i* ~ *iʔi* ~ *ile* ~ *t'in* [i]

†HURRIAN:

†URARTIAN:

†HATTI:

BURUSHASKI: *mi* ~ *mīmo* ~ *mī*/ *mēltalik* [d]NAHALI: *māney* || *tyē-ko* [d]

SINO-TIBETAN:

CHINESE:

KAREN:

TIBETO-BURMAN:

YENISEIAN:

NA-DENE:

HAIDA: *it^h* ~ *it^la* || *t'alaŋ*TLINGIT: *iann* ~ *ohann*EYAK: *kajuk* || *khuinkhan*ATHABASKAN: *nakweni* ~ *xweni* ~ *naxeni* ~ *nàhí* ~ *náání*AFRO-ASIATIC: **m*(*n*) [i] || **nahnu* ~ *n*- [e]

†ETRUSCAN:

†SUMERIAN:

KARTVELIAN: *čwen || *m*- [i] || *naj* ~ *n*- [e]DRAVIDIAN: **ma* ~ *ām* [e] ~ *em* || **nām* ~ *nam* [i] || -*tat*ELAMITE: *nikə* || -*un*(*kə*)INDO-EUROPEAN: **me-s-* || **nō*URALIC-YUKAGHIR: **mε-* ~ **me*ALTAIC: **bε-* ~ **mε-n-* [e] || *(*a*)*yin* [i] || *mu-se* [i]

KOREAN-JAPANESE-AINU:

GILYAK *me-gi* [d] ~ *me-r* || *ní* ~ *ńí* ~ *ńǝŋ* [e]CHUKCHI-KAMCHATKAN: **mu-r* ~ *mu-rx-*

ESKIMO-ALEUT:

AMERIND: *ma-k* [di] || *ki* [di] || *na* [e]

ALMOSAN:

KERESIOUAN:

PENUTIAN: **mak*HOKAN: *magi* || *ki* [d] || *na*CENTRAL AMERIND: *nV*CHIBCHAN: *na*PAEZAN: *kV*ANDEAN: *moki* ~ *moni*MACRO-TUCANOAN: *maha* ~ *mani* || *Vn*EQUATORIAL: *ki* ~ *ku* [i]MACRO-CARIB: *kV* [d,i] || *ana* [e]MACRO-PANOAN: *nV*MACRO-GE: *na*

THE PRONOUN "THOU"

- KHOISAN: *saa- || *ʔa
 NILO-SAHARAN: *ini || u
 KORDOFANIAN: *ɣa ~ ɣɔ ~ ɣo
 NIGER-CONGO: u ~ o
 AUSTRALIAN: *ɲiñ ~ *ɲin
 INDO-PACIFIC: ka || te || ma || na ~ ni ~ ɲi
 MIAO-YAO: kɔn || mwei
 AUSTROASIATIC: *me ~ mo ~ mu ~ ma ~ nee || *hai
 DAIC: mai ~ miɲ ~ ma ~ mi ~ mu ~ mi || su || lu
 AUSTRONESIAN *kaw || *-mu
 FORMOSAN: isu ~ su ~ kasu
 MALAYO-POLYNESIAN: kaw || imu ~ -mu
 BASQUE: hi- ~ heu- || zu ~ zeu
 CAUCASIAN: *gu || *wɔ̃
 WEST: wa ~ we
 EAST: huo ~ hu ~ wun ~ vu || mi(n) ~ me(n)
 †HURRIAN: we- ~ -w ~ -û ~ -ô
 †URARTIAN: -w ~ -aw
 †HATTI: we-
 BURUSHASKI: ūɲ ~ um || go- ~ gu- || -ko- ~ -ku-
 NAHALI: nē- (Dravidian borrowing?)
 SINO-TIBETAN: *naɲ ~ na ~ ɲjo ~ ɲia
 CHINESE: ɲjo ~ ɲja || *kwə(j)
 KAREN: na
 TIBETO-BURMAN: *naɲ ~ na
 YENISEIAN: *ʔu ~ *ʔəw || *kə ~ ʔək-
 NA-DENE: *wī
 HAIDA: tunga ~ dunga
 TLINGIT: weh
 EYAK: i ~ y
 ATHABASKAN: nani ~ nine ~ niɲ ~ nī
 AFRO-ASIATIC: *ʔan-tə ~ *t- || -ka ~ -ku
 †ETRUSCAN:
 †SUMERIAN:
 KARTVELIAN: *sen- ~ *šwen || *x-
 DRAVIDIAN: nī(ɳ) ~ niɳ ~ ñ- || -ti
 ELAMITE: *ni ~ nin ~ -ni || -ti
 INDO-EUROPEAN: *tu ~ *te || *-is ~ *-si

URALIC-YUKAGHIR: **ti* ~ *tet*

ALTAIC: **ti*- || **si* ~ **sen*

KOREAN-JAPANESE-AINU: *na* ~ *nə* || *si*

GILYAK *ši*

CHUKCHI-KAMCHATKAN: (*i*-)γə-*t* || **xəš*- ~ **xən*-

ESKIMO-ALEUT: -*t*

AMERIND: *ma* ~ *mi*

ALMOSAN: **ke*-

KERESIOUAN: ʔis ~ *hi*su

PENUTIAN: *ma* ~ *mi* || *wi*ʔš

HOKAN: *ma* ~ *mi* || *ika* ~ *hik* || *p*-

CENTRAL AMERIND: *ma* ~ *mu*

CHIBCHAN: *ma* ~ *mo* || *pe* ~ *pa* ~ *bo*

PAEZAN: *paje* ~ *bü*

ANDEAN: *ma* ~ *mi* || *p*- ~ *bi*

MACRO-TUCANOAN: *ma* ~ *mi*

EQUATORIAL: *ma* ~ *mi* || *pi* ~ *pa*

MACRO-CARIB: *ama* ~ *amoro*

MACRO-PANOAN: *mi* ~ *am*

MACRO-GE: *ma* ~ *ama* || **ka* ~ *qa* ~ *aki*

THE PRONOUN "YOU"

KHOISAN: *ʔi- || *ʔu

NILO-SAHARAN:

KORDOFANIAN:

NIGER-CONGO:

AUSTRALIAN: **nu*-rrə ~ **ñurra* ~ **ñumpalə* [d] || **ku*-rrə

INDO-PACIFIC: *ki* || *te* || *mi* ~ *pi* || *nik*

MIAO-YAO: ʔmne || *ńew*

AUSTROASIATIC: **be*(n) [d] || **pe* ~ *pa* || **yi* || **inaa*

DAIC: *su* ~ *si* ~ *si* ~ *sau* || *mo* ~ *mu* ~ *ma*ʔ

AUSTRONESIAN

FORMOSAN: *kamu* ~ *amu* ~ *imu*

MALAYO-POLYNESIAN: *kamu* ~ -*miw*

BASQUE: *zuek* ~ *zeuek*

CAUCASIAN:

WEST: š'w_a ~ s'w_e ~ *fe*

EAST: šu ~ zu(*r*) || *biti* ~ *bišti* ~ *bissi* || *meži* ~ *miže* || *kün*

†HURRIAN:

†URARTIAN:

†HATTI:

BURUSHASKI: *ma* ~ *mai* ~ *maimo*

NAHALI: *lā* ~ *lāla* || *nēko* ~ *nāko* [d]

SINO-TIBETAN:

CHINESE:

KAREN:

TIBETO-BURMAN:

YENISEIAN:

NA-DENE:

HAIDA: *daleñ* ~ *dalunga*

TLINGIT: *gigwann* ~ *yehwenn*

EYAK: *liahshū* || *kajuku*

ATHABASKAN: *ʔan*

AFRO-ASIATIC: *t(ə)* || *-kum* ~ *-kun* ~ *-kin*

†ETRUSCAN:

†SUMERIAN: *za*

KARTVELIAN: (*s*₁)*tkwen-*

DRAVIDIAN: **nīm* ~ *nim* ~ *num* || *-tir*

ELAMITE:

INDO-EUROPEAN: *-te*

URALIC-YUKAGHIR: *tε* ~ *tit*

ALTAIC: *ta*

KOREAN-JAPANESE-AINU: *-s-i*

GILYAK

CHUKCHI-KAMCHATKAN: **tur* ~ *turx-* ~ *-tə-k*

ESKIMO-ALEUT: *-s-i* || *-ti-k* [d] ~ *-ti-t*

AMERIND: *mak* ~ *mik*

ALMOSAN:

KERESIOUAN:

PENUTIAN: *makam*

HOKAN: *māka?* ~ *mal*

CENTRAL AMERIND: *?ima* ~ *yim*

CHIBCHAN: *mi* ~ *mu*

PAEZAN:

ANDEAN: *mi* ~ *mai*

MACRO-TUCANOAN: *mue* ~ *musa* ~ *mixsa*

EQUATORIAL: *amos* ~ *mungui*

MACRO-CARIB: *moki* ~ *amo*

MACRO-PANOAN: *ami* ~ *mikuan* ~ *mil*

MACRO-GE: *ma* ~ *makaija*

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13

The Origin of Language: Retrospective and Prospective

*Il linguaggio . . . è l'archivio più
copioso e più sicuro dell'umanità.*

—Alfredo Trombetti (1905)

The question of the origin of language—all discussion of which was banned by the Société de Linguistique de Paris in 1866—has always been one of the few linguistic problems of interest to the general public.* Perhaps because of this widespread but uncritical attention, coupled with much amateurish work of no scientific value and the general reluctance of scholars to deal with such matters, the question has remained in a muddled state, its various components often not even clearly distinguished. I will explore here but a single aspect of the question, namely, whether or not all of the world's presently extant languages share a common origin. I will be seeking neither the *locus* of that origin nor its *antiquity*.

THE PROBLEM

The striking parallels between biology and linguistics, particularly in their evolutionary aspect, have been generally recognized since at least the mid-nineteenth century. In one of his few references to language, Charles Darwin

* A preliminary version of this chapter was presented at an International Conference on Language Change and Biological Evolution, Torino, Italy, May 1988. A Russian translation was published in *Voprosy Jazykoznanija* 1 (1991): 5–19.

pointed out in 1871 that "the formation of different languages and of distinct species, and the proofs that both have been developed through a gradual process, are curiously parallel." Were it not for these "curious" similarities it is doubtful that biologists and taxonomic linguists would ever conceive of a joint conference; historians and mathematicians seldom confer. Yet my focus here is on an area where the biological and linguistic perspectives appear to clash rather than to complement one another. For biologists the monogenetic origin of *Homo sapiens sapiens* is now generally accepted (though supporters of "Multiregional Evolution" would dispute this point), and for them, the notion that the Indo-European peoples have no known biological relatives would be ludicrous. Yet for most linguists a common origin of all human languages is very much in doubt, and the belief that Indo-European has no known linguistic relatives is not only a safe position, but practically a merit badge for sober scholarship. In practice, if not in theory, the linguistic approach is pre-Darwinian, in the sense that dozens, or even hundreds, of linguistic taxa are treated *as if* they were historically independent developments. Linguists seldom go so far as to deny the possibility that all these taxa are ultimately related; what they deny is that there is any *linguistic evidence* for such a hypothesis.

To be sure, the monogenetic origin of *Homo sapiens sapiens* need not *necessarily* entail the monogenesis of human language; the two topics are, and should be kept, distinct, and when we find correlations between biology and linguistics, we insist that these correlations be arrived at independently. Yet there is something strange about the spectacle of hundreds of supposedly unrelated language families, when the biological differences among the people who speak the tongues of the various language families are often minuscule. Surely no one imagines that each of these hundreds of language families represents an independent creation of language. But if they are not independent developments is it plausible, or even possible, that they have all been separated from each other for so long that any trace of deeper relationships has vanished? Is it not also strange that the comparative method, which was discovered in its broad outlines over two centuries ago, largely in terms of the Indo-European family, has never been able to connect that family with any other—at least to the satisfaction of the linguistic community? This mystery is compounded by the fact that Indo-European is in no sense an archaic or poorly distinguished family.

I believe the general rejection of attempts to connect Indo-European with other families, encouraged in an earlier day by chauvinistic arrogance, has effectively blocked consideration of the question of monogenesis by acting as a dike against *all* long-range comparison. For if Indo-European—that most studied and best understood of all families—cannot be convincingly connected

with any other family, then what confidence can we have in connections proposed between even less well studied families, often with a postulated time depth many times that of Indo-European? Thus if the splendid genetic isolation of Indo-European can be maintained, the question of monogenesis is moot.

Although the Paris interdiction of the study of the origin of language expressed primarily the European disenchantment with work on this topic, at a time when Europe dominated the world, culturally and otherwise, in the United States the historical linguist William Dwight Whitney (1867: 383) was no less pessimistic: "Linguistic science is not now, and cannot ever hope to be, in condition to give an authoritative opinion respecting the unity or variety of our species." Although this remains the conventional wisdom among most linguists to the present day, I believe it is largely a myth that scholars have passed on uncritically from generation to generation for over a century. Aside from barely concealed racism, there are multiple academic and institutional reasons why this myth has persisted so long, the two most responsible being the predominantly synchronic slant of twentieth-century linguistics and the ever-increasing grip of specialization on academia. Although historical linguistics has never altogether succumbed, and indeed has always been considered an integral part of general linguistics, there can be no doubt that during most of the present century it has taken a back seat to synchronic exploration. Moreover, even *within* historical linguistics, the increasing pace of publication and specialization has discouraged most scholars from seeking to keep abreast of developments outside of their own family or language of interest. There has been a tacit assumption that developments in, say, Bantu linguistics can be safely ignored by Romance scholars.¹

AN ALTERNATIVE VIEW

Despite this generally hostile intellectual climate, and the risk of provoking one's colleagues to consternation or condemnation, there have always been some scholars who rejected the Paris edict and Whitney's admonition and sought to find evidence of more comprehensive classifications of the world's languages. Six such scholars bear mention here. In several works published during the first quarter of the twentieth century, the Italian linguist Alfredo Trombetti sought to establish the monogenesis of human language by comparing lexical and grammatical roots from languages and language families around the world. Though one can hardly deny that some of Trombetti's

¹ In Ruhlen (1979) I sought to challenge that notion. See also the remarks of Henry Sweet (1901) quoted in Chapter 6 herein.

proposals were incorrect, many others were later adopted (or independently discovered) and elaborated by other scholars. As early as 1905 he presented a strong *prima facie* case for the monogenesis of human language.

In the New World, from roughly 1910 to 1930, the American linguist Edward Sapir made a number of sweeping proposals for the consolidation of numerous Native American language families that had been identified only decades before, during the nineteenth-century catalog stage of linguistic taxonomy. Sapir was also the first to propose genetic affinity between Na-Dene and Sino-Tibetan, a connection that has recently been revived and extended (see Chapters 1 and 4). For a full discussion of Sapir's many contributions to Amerindian classification, see Ruhlen (1987).

Morris Swadesh, a student of Sapir's, shared both his mentor's interest in Amerindian linguistics and Trombetti's passion for global exploration. Though his early work was much in the spirit of Sapir, giving etymologies for various proposed groups, in his later work he shifted to his own technique of lexicostatistics, with mixed results. During this later phase he became interested in establishing a worldwide network of linguistic relationships, and the problem of a hierarchical classification of the world's languages became less important to him. His premature death in 1967 meant that his life's work was never adequately realized or summarized.

During the early 1960's two Russian scholars, Vladislav Illich-Svitych and Aron Dolgopolsky, revived an earlier proposal of the Dane Holger Pedersen that grouped Indo-European with several other families of Eurasia and North Africa in a Nostratic phylum. Though they had at first been unaware of each other's work, their results coincided to such an extent that Nostratic theory became a single unified field, and since Illich-Svitych's tragic death in 1966 the work of the field has been carried on by Dolgopolsky and others. In classical Nostratic theory, Indo-European is one of six related subgroups, the others being Afro-Asiatic, Kartvelian, Uralic, Altaic, and Dravidian. Roughly 400 etymologies supporting the Nostratic grouping have so far been published. Recently Dolgopolsky (1984) has proposed the inclusion of Elamite, Gilyak, and Chukchi-Kamchatkan as well.

The American linguist Joseph Greenberg has probably made the greatest contributions of all to linguistic taxonomy. Beginning with his revolutionary classification of African languages in the 1950's, he undertook to investigate those regions of the world where linguistic classification was least advanced. By 1963 he had classified all African languages into four phyla (Khoisan, Niger-Kordofanian, Nilo-Saharan, and Afro-Asiatic), and it is this classification that forms the basis of all contemporary research in African linguistics. In 1971 Greenberg offered evidence for an Indo-Pacific phylum that includes the very diverse Papuan languages of New Guinea and surrounding islands,

and in 1987 he presented substantial evidence for an Amerind phylum that would include all New World languages except those belonging to the Na-Dene and Eskimo-Aleut families. He is currently at work on a book on Eurasiatic, a vast grouping that differs from Nostratic by the exclusion of Afro-Asiatic, Kartvelian, and Dravidian, and by the inclusion of Japanese, Ainu, Gilyak, Chukchi-Kamchatkan, and Eskimo-Aleut.

A CLOSER LOOK AT THE PROBLEM

Despite the pathbreaking work of these scholars, the majority of the linguistic community still adheres to the belief that Indo-European has no known linguistic relatives, and none is likely ever to be demonstrated, because—so the argument goes—beyond the time depth of Indo-European all trace of genetic affiliation has been obliterated by ceaseless phonetic and semantic erosion. This belief is so strong that even linguists in possession of evidence to the contrary will often provide an *ad hoc* explanation of the contradictory evidence rather than challenge the reigning tenets of comparative-historical linguistics.

The Australian language phylum is instructive in this regard. Humans have occupied Australia continuously since at least 40,000 years BP (before present), and there is no reason to think that Proto-Australian does not date from about that time (though the fact that Australia was not permanently cut off from New Guinea until about 10,000 years ago must be borne in mind). At the very least, Proto-Australian must be twice as old as Indo-European, and more likely seven or eight times as old. At this time depth, evidence of a primitive unity can no longer exist, according to the standard view of linguistic evolution, and yet the Australian phylum is universally accepted as a valid taxon.

In order to reconcile this clear contradiction R. M. W. Dixon (1980) discarded the principle of linguistic uniformitarianism and proposed that, because of their isolation, Australian languages have changed much more slowly than have languages elsewhere in the world:

Proto-Australian was probably spoken a considerable time in the past, perhaps some tens of millennia ago. It is this which makes it unlikely that it will ever be possible to demonstrate a genetic connection between Australian and any other language family. Any sister language that Proto-Australian may have left behind in South-East Asia, say, is likely to have changed out of all recognition over the intervening period, so that there would be insufficient points of similarity remaining for any connection to be recognizable. (Or it could well be that relatives of Proto-Australian have NO living descendants.) Generally, languages change at such a rate that after more than about three or four thousand years of separation genetic links are no longer recognizable. Australian languages have been relatively isolated from contact with other languages and cultures, and may well have changed at a comparatively slow

rate; but any relative that they left behind in regions that were more linguistically cosmopolitan would not have been sheltered in this way. (p. 237)

This romantic notion of Australia as a Land That Time Forgot is most certainly unsupportable, and one should not lose sight of the fact that it is based on expectations rather than evidence. In any event, Dixon is categorical in his belief that "there is absolutely no evidence for a genetic connection between Australian languages and anything outside the continent; there is not even any remote 'possibility' that scholars could argue about. It seems that the languages of Australia have been so long in their present location that any evidence of connection with other languages has been, through time, eroded away." (p. 238)

Though the number of roots that have been reconstructed for Proto-Australian is rather small, some of these would appear to be cognate with roots found in other families (see Chapter 14). Consider, for instance, Proto-Australian **bungu* 'knee,' which in various modern languages has semantic extensions to things that bend (wave, bend in a river, hump in a snake's body). This form is very similar in sound and meaning to the Indo-Pacific etymology for 'knee,' which includes forms such as Tobelo *buku*, Koianu *poku*, and Teri Kawalsch *bugu*. Traces of this root are also found in Eurasia. Ainu (*he-*) *poki(-ki)* 'bow down' appears to belong here, as do Proto-Indo-European **bheug(h)* 'to bend,' and Proto-Altaic **bük(ä)* 'to bend' (including forms such as Uighur *bük* 'to kneel,' Yakut *bük* 'to bend,' Khalkha *bóx(ón)* 'hump of a camel,' and Evenki *buku* 'bent, crooked'). In Africa, Proto-Bantu **bóngó* 'knee' is virtually identical with the Australian form in both sound and meaning, and in the West Atlantic branch of Niger-Congo we find forms such as Baga *-buɲ* 'knee.' One may anticipate that additional reflexes of this root will be found elsewhere in the Niger-Congo family, but the lack of any kind of Niger-Congo etymological dictionary makes this difficult to verify for the moment. Finally, this same root is well attested in the Amerind family, where we find North American forms like Chumash (*si-*) *buk* 'elbow' and Walapai (*mi-*) *puk* 'knee' and South American forms like Guamaca *buka* 'knee, elbow' and Iranshe *poku* 'bow' (n.).

This example is by no means the only genetic connection between the Australian phylum and the rest of the world's languages. Dixon reconstructs **bula* '2' for Proto-Australian, and Blake (1988) shows how this number has been used to form dual pronouns in the Pama-Nyungan subgroup: **nyuN-* *palV* 'you-2' and **pula* 'they-2.' Two of the extinct Tasmanian languages (considered by Dixon unrelated to Australian languages) exhibit similar forms, Southeastern *boula* '2' and Southern *pooalih* '2.' In the context of his Austro-Tai hypothesis Paul Benedict (1975) pointed out the similarity of the number 2 in all of the major families of Southeast Asia. Benedict reconstructs **ʔ(m)bar*

'2' for Proto-Austroasiatic (cf. Santali *bar*, Jeh *bal*, Khmu' *bār*, Old Mon *ʔbar*) and **(a)war* '2' for Proto-Miao-Yao. He also considers Daic forms like Mak wa 'twin' and Austronesian forms like Javanese *kẽmbar* 'twin' to be cognate with the preceding. In Africa one of the pieces of evidence that Edgar Gregersen (1972) offered in support of Congo-Saharan (his proposal for joining Niger-Kordofanian and Nilo-Saharan in a single family) was forms for the number 2 that hardly differ from those we have seen so far. In Niger-Congo we have Temne (*kə*)*bari* 'twin,' Nimbari *bala* '2,' Mano *pere* '2,' and Proto-Bantu **bàdí* '2'; Nilo-Saharan has forms such as Nubian *bar(-si)* 'twin,' Merarit *warē* '2,' and Kunama *barā* 'pair.' In Eurasia one of Illich-Svitych's Nostratic etymologies appears related to the forms discussed so far, but in these families the meaning has shifted from '2' to 'half,' 'side,' and 'part.' Specifically, Illich-Svitych (1967) connects Proto-Indo-European **pol* 'half, side' (cf. Sanskrit (*kā-*)*palam* 'half,' Albanian *palë* 'side, part, pair,' Russian *pol* 'half,') with Proto-Uralic **pālā/*pole* 'half' (cf. Yurak Samoyed *peelee* 'half,' Hungarian *fele* 'half, one side of two,' Vogul *pääl* 'side, half,' Votyak *pal* 'side, half') and Proto-Dravidian **pāl* 'part, portion' (cf. Tamil *pāl* 'part, portion, share,' Telugu *pālu* 'share, portion,' Parji *pēla* 'portion'). Finally, cognate forms are found in Amerind languages of North and South America (cf. Wintun *palo(-l)* '2,' Wappo *p'ala* 'twins,' Huave *apool* 'snap in two,' Colorado *palu* '2,' Sabane *paʔlin* '2').

The final piece of evidence I would like to offer for the proposition that the Australian phylum is demonstrably related to the rest of the world's languages involves an interrogative whose most usual form is *mi(n)* or *ma(n)* and whose meaning is 'what?, who?,' or some other interrogative. This root has been discussed in the work of Trombetti, Illich-Svitych, and Greenberg and appears to be one of the most broadly distributed formatives in human language. For Proto-Australian Dixon reconstructs **miNH^{a2}* 'what,' with modern reflexes such as Dyirbal *minya* 'what' and Pitta-Pitta *minha* 'what.' These forms are strikingly similar to those contained in one of Greenberg's Indo-Pacific etymologies that includes forms such as Matap *mina* 'what,' Arapesh *mane* 'what,' Nyaura *məndə* 'what, thing,' Kati *man* 'something,' Biada *min* 'thing,' and Laumbe *mina* 'thing.'

In Eurasia there are a variety of forms that are in all likelihood cognate with those just mentioned. In the Austroasiatic phylum one can point to Kurku *amae* 'who,' Mon *mu* 'what,' Central Sakai *mā/mō* 'what.' Two isolated languages of the Indian subcontinent, Burushaski and Nahali, show reflexes of the interrogative under discussion. Burushaski has *men* 'who' and

² *NH* represents a correspondence between lamino-interdental *nh* and lamino-palatal *ny* that is found in the modern Australian languages.

amin 'which'; Nahali, *mingay* 'where' and *miyan* 'how much.' In the Caucasus **ma* has been reconstructed as an interrogative particle in Proto-(North) Caucasian, and some languages show pronominal use of the *m* interrogative as well, e.g. Chechen *mila* 'who' and Bats *me* 'who.' For Kartvelian, G. Klimov (1964) has reconstructed **ma* 'what' and **mi-n* 'who.' Across Northern Eurasia the *m* interrogative is widely attested, its numerous occurrences having been emphasized in both Illich-Svitych's Nostratic etymologies and Greenberg's Eurasiatic etymologies. Examples include Proto-Indo-European **mo-*, a base of interrogative adverbs; Proto-Uralic **mi* 'what' (cf. Vogul *män* 'which, what,' Tavgy *ma* 'what,' Hungarian *mi* 'what, which,' Finnish *mi/mi(-kă)* 'what, which'); Proto-Turkic **mi* 'what' (cf. Chuvash *měn* 'what' and Turkish *mi*, a sentence enclitic); Mongolian *-ū* (< **mu*), a sentence interrogative, and Monguor *amu/ama* 'what'; Tungus *-ma*, an indefinitizer; Korean *muôt* 'what' and Old Korean *mai* 'why'; Ryukyuan (the language most closely related to Japanese) *mī* 'what'; Ainu *mak/makanak* 'what,' *makan* 'what kind'; Chukchi *mikin* 'who,' Kamchadal *min* 'which, what sort.'

In the New World the *m* interrogative is not found, to the best of my knowledge, in either Eskimo-Aleut or Na-Dene, but it is widespread in Amerind. North American examples include North Sahaptin *mēn/mna* 'where,' Central Sierra Miwok *minni* 'who,' San Jose *mani* 'where,' Choctaw *mana* 'when,' and Chickasaw *mano* 'where.' In South America we have Kagaba *mai* 'who,' *mani* 'where,' Paez *maneh* 'when,' Allentiac *men* 'who,' Catio *mai* 'where,' Guajajara *mon* 'who,' Maripu *manub* 'in which direction,' Cofan *mañi* 'where,' Krenje *menō* 'who,' and Botocudo *mina* 'who.'

In Africa the *m* interrogative is widely attested in Afro-Asiatic and is perhaps found in Khoisan as well. The Khoisan examples are relatively few (cf. Kxoe *mă* 'who,' *mă* 'which,' Naron *kama* 'if, when,' Nama *maba* 'where'), but in Afro-Asiatic it is attested in every branch of the family. Examples include Akkadian *mīn* 'what,' *mann* 'who,' Amharic *mīn* 'what,' Arabic *man/min* 'who,' Tuareg *ma* 'what,' *mi* 'who,' Saho *mā* 'what,' *mi* 'who,' Somali *máḥâ* 'what,' Oromo *māni* 'what,' Kaffa *amone* 'what,' Hausa *mè/mù* 'what,' Bata *mən* 'what,' and Logone *mini* 'who.'

In all of the above forms I would maintain that the initial *m*-portion of the root is cognate. The final *-n* portion, however, has multiple sources, one of which is locative. A *k* interrogative, which can be seen in some of the forms above, is the chief rival of the *m* interrogative in the world's languages, sometimes joining with it, sometimes supplanting it, and sometimes being replaced by it. The complex interplay of these two interrogatives (as well as a third, *j*) has been discussed by Trombetti, Illich-Svitych, and Greenberg, all of whom have called attention to the generally personal character of the *k* interrogative (who?), which contrasts with the generally nonpersonal character of the *m* in-

terrogative (what?). Finally, it may be significant that despite the enormous geographic distribution of this root—from Africa to the Americas—it appears not to occur in Niger-Kordofanian or Nilo-Saharan, a point to which I will return.

Notwithstanding the very widespread distribution of these roots, many of which have been known from at least the time of Trombetti, they have had little impact on comparative-historical linguistics, which, from a theoretical perspective, has remained devoutly Eurocentric. Indo-European, as an examination of any of the introductory textbooks will reveal, is still almost universally regarded as unrelated to any other family. The Americas have actually seen retrogression in linguistic taxonomy during this century, the number of supposedly independent families growing to over 200 by the time that Greenberg (1987) offered compelling evidence that there are in fact just three (see Chapter 6). In Asia many Altaicists have come to reject any connection among the three Altaic branches, and even the Uralic affinity of Yukaghir is sometimes denied or questioned. The reasons for the rejection of more comprehensive classifications are multiple and have been amply discussed in Greenberg (1987) and Ruhlen (1987). Rather than cover that ground once again I will merely cite a few particular criticisms that exemplify the flavor of the opposition to long-range comparison.

Traditionally, the most common criticism of long-range comparison has been that the proposed cognates were semantically and/or phonologically too disparate to be historically related. This is hardly the case with the etymologies discussed above, which are in fact criticized as being *too similar* in sound and meaning to be related at the time depths proposed. The putative cognates cited in these etymologies are sufficiently extensive and sufficiently similar in sound and meaning that their genetic affinity would not be controversial if they represented merely some group of South American Indian languages, but because they represent instead supposedly unrelated language families from every corner of the earth the actual substance of the etymologies is given less weight than are the expectations of scholars about what genetic connections are possible. What would be considered an obvious etymology at a low level of classification becomes “random noise” at higher levels—with no change in content at all. Trombetti (1905: 44) criticized this inconsistency as follows: “It is clear that in and of itself the comparison of Finno-Ugric *me* ‘I,’ *te* ‘you’ with Indo-European *me-* and *te-* [with the same meaning] is worth just as much as any comparison one might make between the corresponding pronominal forms in the Indo-European languages. The only difference is that the common origin of the Indo-European languages is accepted, while the connection between Indo-European and Finno-Ugric is denied.”

No one would deny that the member languages of low-level groups like Romance often display cognates that are very similar or even identical. What is in dispute is (1) whether supposedly independent, higher-level groupings (e.g. Indo-European, Australian, and Amerind) can share cognates that are similar in form and meaning and (2) whether a reconstructed proto-language (e.g. Proto-Indo-European, Proto-Nostratic, or Proto-Australian) can show reflexes in its extant daughter languages that are similar or identical to the reconstructed form. The answers to both of these questions depend on the rate and nature of linguistic change. As Dixon's comments indicate, many linguists believe that the rate of linguistic change is such that all trace of genetic affiliation is effaced after only several thousand years, so for him the answer to both questions is no. But if all of the supposedly independent linguistic families do derive from a common origin, then the fact that the earliest reconstructable items in the various families look alike should hardly be surprising. *Greater convergence with greater depth is what one would expect.*

As regards the second question I would point out only that, in every etymological dictionary I have examined, some of the reconstructed forms for the proto-language are similar or identical to some of the reflexes in its extant daughter languages. Pokorny (1959) reconstructs Proto-Indo-European **nepōt* 'nephew, grandson,' a form that must have existed at least 5,000 years ago. Yet this same form, with the same meaning, is preserved to this day intact in Rumanian *nepot* 'nephew, grandson.' At least in this instance Dixon's inexorable erosion seems not to have taken place. And even phyla that are much older than Indo-European show the same phenomenon. In the first etymology above, for example, Proto-Australian **bungu* 'knee' shows the reflex *bungu* 'knee' in many modern languages (e.g. Guugu Yimidhir, Yidiny, Dyirbal). Now if Proto-Australian, which in all likelihood dates from 40,000 BP or more, can be accorded reflexes in contemporary languages that are identical to the reconstructed form, on what grounds can one object to a similar phenomenon between Proto-Sapiens and modern languages, given that Proto-Sapiens could be only 20,000–30,000 years older than Proto-Australian?

Furthermore, the assumption that linguistic change has been constant and continuous since the emergence of *Homo sapiens sapiens* may be incorrect. It is well known among anthropologists, archaeologists, and even historians that cultural evolution in general appears to have developed at an ever accelerating pace as one approaches the present, and the same may well be true for linguistic evolution. Biological evolution, too, is no longer necessarily conceived of as a very long, slow process of gradual and constant change; scholars like Niles Eldredge and Stephen Jay Gould have argued instead for a more episodic character to evolution, in which little change may occur over very long periods of time (see Eldredge 1985), and recent research on catastrophes

and mass extinctions tends to support that mode. Given that we do not *know* what linguistic evolution was like during the past 100,000 years, it would seem premature to rule out any of the possibilities on a priori grounds.

Some linguists, of course, are simply unaware that other language families often have roots similar to those in the family they are interested in, and I suspect that this is the case with Dixon. Other linguists, however, are aware of such roots but choose to ignore them. One of the most cogent pieces of evidence that Greenberg (1987) offered in support of the Amerind phylum was the presence of first-person *n* and second-person *m* in all eleven branches. As noted in Chapter 12, the first- and second-person pronouns are known to be among the most stable meanings over time. Dolgopolsky (1964) found that the first-person pronoun is the most stable item, and the second-person pronoun ranked third in stability (following the number 2). It is also well known that initial nasal consonants are among the most stable sounds, and the conjunction of stable sounds with stable meanings has meant that even after 12,000 years these pronouns have been preserved in every branch of the Amerind phylum. Greenberg did not claim to be the first to notice the broad distribution of these two pronouns in North and South America. Swadesh (1954) had underscored their distribution in an article containing additional evidence for Amerind (not yet so named), and a year later Greenberg, unaware of Swadesh's article, discovered the same distribution. Greenberg observes, "That two scholars should independently make the same basic observation is an interesting sidelight in the argument for the Amerind grouping as I have defined it" (1987: 54).

Lyle Campbell, an Amerindian scholar and one of Greenberg's chief critics, sees things differently: "The widespread first-person *n* and less widespread second-person *m* markers . . . have been recognized from the beginning without significant impact on classification" (Campbell 1986: 488). Lamentably, Campbell is correct, but that such crucial evidence has been overlooked—or, worse, scorned—is not something to take pride in. Were a biologist to remark smugly, "That group of animals you keep mentioning, the ones with a backbone, has been recognized for a long time and I am not impressed," his colleagues would chuckle and move on to other business. Here we see perhaps one measure of the difference between biology and linguistics, especially as they present themselves today. Greenberg (1987) summarizes the fundamental and obvious importance of the two Amerind pronouns as follows:

It is the business of science to note non-random phenomena and to explain them. Were we to plot the occurrence of specific first- and second-person markers on a world map, we would not fail to notice a clustering of first-person *m* and second-person *t* (along with *s*) in Europe, northern Asia, and the northern part of North America as far as Greenland, with a second clustering of first-person *n* and second-person *m* covering the rest of the Americas, outside of the Eskimo-Aleut and Na-Dene areas.

In my opinion, this observation alone would suffice to lead any historically minded anthropologist to the view that there must be at least one very large stock to account for the first set and another to account for the second set. (p. 55)

AN END TO MYTHOLOGY

I have suggested here that the currently widespread beliefs, first, that Indo-European has no known relatives, and, second, that the monogenesis of language cannot be demonstrated on the basis of linguistic evidence, are both incorrect. Belief in these erroneous assertions is based largely on extra-linguistic criteria and a priori assumptions, rather than on a serious survey of the world's linguistic literature. A growing, though still small, number of linguists are coming to realize that all the world's languages do share a common origin, and they are beginning to work on that basis. In the remainder of this chapter I shall discuss several implications of monogenesis for linguistic taxonomy.

First, the search for linguistic "relationships" is now over (or should be), since it no longer makes sense to ask if two languages (or two language families) are related. *Everything* is related, and the question to be investigated within or among different families is the *degree* of their relationship, not the fact of it. All taxonomic questions dissolve into one: discovering the hierarchical subgrouping of the human family on the basis of linguistic traits. Such traits may be either lexical (i.e. roots, affixes) or typological (e.g. nasal vowels, the SOV word order, an inclusive/exclusive distinction for 'we'). The use of lexical evidence to support a particular subgrouping needs no justification, since it has long been an essential technique of the comparative method. It is the *total distribution* of a root that reveals its taxonomic significance, not its mere presence in this or that family. Within that total distribution, particular developments within particular subgroups, such as Grimm's Law within Indo-European, may provide additional evidence for subgrouping.

The use of typological traits in genetic classification is more controversial, the generally accepted view being that such traits are in fact not indicative of genetic relationships. As is well known, the use of typological traits in some of the earlier work on African linguistics led to classifications that were definitely not phylogenetic, but the error of those early taxonomists lay more in their reliance on too few traits (sometimes just one) than in the traits themselves. Thus from a strictly historical perspective the use of sex gender, nasal vowels, or word order alone to classify languages would lead to absurd results. Still, such features, no less than grammar or the lexicon, are genetically transmitted as a part of language, and thus have some, if not absolute, evidentiary value. It can hardly be an accident of nature that the 700 or so Papuan languages are uniformly SOV in basic word order (with a few notable exceptions

under Austronesian influence). The fact that the Indo-European sex-gender system is not cognate with gender systems in other families does not imply that gender has not been a genetically transmitted trait during the history of Indo-European (and of course in other families where it has developed independently). In a preliminary taxonomic analysis of the world's linguistic phyla (Darlu, Ruhlen, and Cavalli-Sforza 1988), we found, using typological traits such as consonants (presence or absence of *p*, *m*, *s*, etc.), vowels (presence or absence of *i*, *e*, *a*, etc.), pronouns (presence or absence of a first-person dual inclusive pronoun), and word order (presence or absence of SOV word order in the basic declarative sentence), that often those phyla that linguists had previously connected on the basis of cognates also were immediately affiliated with each other on the basis of typological traits (e.g. Uralic and Altaic, Chukchi-Kamchatkan and Eskimo-Aleut, Na-Dene and Caucasian, Niger-Kordofanian and Nilo-Saharan, Indo-European and Afro-Asiatic). These preliminary data indicate that there is a greater genetic component in typology than has previously been assumed.

A second consequence of monogenesis is that it becomes possible, at least theoretically, to compare a phylogenetic tree of the human family based on linguistic traits with one based on biological traits. Many linguists still believe that there is little correlation between linguistic and biological traits. According to Campbell (1986: 488), "repetition of the obvious seems required: there is no deterministic connection between language and gene pools or culture." However, recent work by L. L. Cavalli-Sforza et al. (1988) shows that the correlations between biological and linguistic classifications are of a most intimate nature: "Linguistic families correspond to groups of populations with very few, easily understood overlaps, and their origin can be given a time frame. Linguistic superfamilies show remarkable correspondence . . . , indicating considerable parallelism between genetic and linguistic development."

As we saw in Chapter 1, many linguistic taxa correspond almost exactly to biological taxa, not only in the lower levels of classification (e.g. Eastern Austronesian, Altaic), but in the higher levels as well (e.g. Congo-Saharan, Austric, Nostratic/Eurasiatic, Amerind). This being the case, one is left to wonder whether the basic biological dichotomy between Sub-Saharan Africa and the rest of the world will be matched by a basic linguistic dichotomy between Congo-Saharan (for which Gregersen 1972 offered lexical and grammatical evidence) and non-Congo-Saharan. As will be shown in Chapter 14, some of the roots posited by Gregersen for Congo-Saharan are in fact even more widespread, occurring elsewhere in the world, and hence cannot be innovations within Congo-Saharan. Gregersen's etymologies thus involve a mixture of those restricted to Congo-Saharan and those shared by Congo-Saharan and other families. The interrogative etymology *min* 'what' discussed above

is interesting in this regard, for it seems to be found everywhere *but* in Congo-Saharan, and thus could be an innovation of the non-Congo-Saharan grouping, if this turns out to be a valid linguistic taxon.

A final consequence of monogenesis, should it be accepted, is that it will necessarily lead to a reappraisal of a good many family-internal explanations of various phenomena. One such example is Dixon's (1980) explanation of the origin of the Australian interrogative *miNH*a 'what':

Languages in North Queensland which do not have *miNH*a as an indefinite-interrogative form generally have a lexical item *miNH*a 'meat, (edible) animal.' It is likely that there has been semantic shift, with the generic noun *miNH*a 'animal' shifting to become an indefinite term 'something'; like other indefinites in most Australian languages this also had an interrogative sense 'what.' *miNH*a is now found with indefinite-interrogative sense over a large region centered in New South Wales (and in a few scattered languages outside this area), suggesting a pattern of areal diffusion." (p. 376)

Thus Dixon derives the interrogative *miNH*a 'what' from a phonologically identical root meaning 'meat' via an intermediate stage meaning 'something.' Even if there were not abundant evidence that the Australian interrogative *miNH*a is cognate with similar forms in many other phyla, as we saw above, I believe Dixon's family-internal explanation would still have to be rejected. The semantic shift MEAT > SOMETHING is unusual, to say the least, and quite probably unattested in the world's languages. Furthermore, the normal semantic evolution is from INTERROGATIVE to INDEFINITE, not vice versa. All in all, Dixon's family-internal explanation is most improbable, whereas the family-external explanation is simple and straightforward. Greenberg (1990, 1991) illustrates the value of a broad perspective for understanding certain phenomena within Indo-European, a theme that has been one of the major contributions of Nostratic research as well. Biological taxonomists have long understood the crucial importance of the broad perspective, and one may hope that linguistic taxonomists will soon gain a similar appreciation.

We are only beginning to understand the structure of the human population as it is reflected in biological and linguistic traits. For the highest levels of human classification, biological taxonomy seems to be in a more advanced state for the moment, but clearly both biology and linguistics have their own separate and important roles to play in unraveling the phylogeny of our species. Perhaps when both biological and linguistic taxonomy have been elaborated more confidently and in greater detail, the many parallels and similarities between the two fields will come to be viewed not as "curious" but as natural.

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Global Etymologies

John D. Bengtson and Merritt Ruhlen

*If the strength of Indo-European studies
is largely based on the existence,
in a few instances at least,
of very old sources, the strength
of Amerindian studies is simply
the vast number of languages.
Thus synchronic breadth becomes
the source of diachronic depth.*

—Joseph H. Greenberg (1987)

How does one know that two languages are related? Or that two language families are related? Every linguist purports to know the answers to these questions, but the answers vary surprisingly from one linguist to another. And the divergence of views concerning what *is* actually known is even greater than that exhibited on the question of how one *arrives at* this body of information. This is not a particularly satisfactory state of affairs. In what follows we will explore these questions in a global context. We conclude that, despite the generally antipathetic or agnostic stance of most linguists, the case for monogenesis of extant (and attested extinct) languages is quite strong. We will present evidence that we feel can only be explained genetically (i.e. as

the result of common origin), but we will also attempt to answer some of the criticism that has been leveled at work such as ours for over a century.

THE BASIS OF LINGUISTIC TAXONOMY

That ordinary words form the basis of linguistic taxonomy is a direct consequence of the fundamental property of human language, the *arbitrary* relationship between sound and meaning. Since all sequences of sounds are equally well suited to represent any meaning, there is no tendency or predisposition for certain sounds or sound sequences to be associated with certain meanings (leaving aside onomatopoeia, which in any event is irrelevant for classification). In classifying languages genetically we seek, among the available lexical and grammatical formatives, similarities that involve *both* sound and meaning. Typological similarities, involving sound alone or meaning alone, do not yield reliable results.

The fundamental principles of taxonomy are not specific to linguistics, but are, rather, as applicable in fields as disparate as molecular biology, botany, ethnology, and astronomy. When one identifies similarities among molecular structures, plants, human societies, or stars, the origin of such similarities can be explained only by one of three mechanisms: (1) common origin, (2) borrowing, or (3) convergence. To demonstrate that two languages (or language families) are related, it is thus sufficient to show that their shared similarities are not the result of either borrowing or convergence. As regards convergence—the manifestation of motivated or accidental resemblances—linguists are in a more favorable situation than are biologists. In biology, convergence may be accidental, but is more often motivated by the environment; it is not by accident that bats resemble birds, or that dolphins resemble fish. In linguistics, by contrast, where the sound/meaning association is arbitrary, convergence is *always* accidental.

It is seldom emphasized that similarities between language *families* are themselves susceptible to the same three explanations. That we so seldom see mention of this corollary principle is largely because twentieth-century historical linguistics has been laboring under the delusion that language families like Indo-European share *no* cognates with other families, thus offering nothing to compare. At this level, it is alleged, similarities simply do not exist.

What is striking is that this position—for which considerable evidence to the contrary existed already at the start of this century (Trombetti 1905) and which on a priori grounds seems most unlikely (Ruhlen 1988a)—came to be almost universally accepted by linguists, most of whom have never investigated the question themselves. Those few scholars who have actually investigated the question, such as Trombetti (1905), Swadesh (1960), and Greenberg

(1987), have tended to favor monogenesis of extant languages. Even Edward Sapir, often considered an exemplar of linguistic sobriety (despite his alleged excesses in the Americas), looked favorably upon the work of Trombetti, as seen in a letter to Kroeber in 1924: "There is much excellent material and good sense in Trombetti in spite of his being a frenzied monogenist. I am not so sure that his standpoint is less sound than the usual 'conservative' one" (quoted in Golla 1984: 420). We maintain that a comparison of the world's language families *without preconception* reveals numerous widespread elements that can only be reasonably explained as the result of common origin.

BORROWING

Linguists employ a number of well-known techniques to distinguish borrowed words from inherited items. Most important, clearly, is the fact that basic vocabulary, as defined by Dolgopolsky (1964) and others, is highly resistant to borrowing. Though it is no doubt true that *any* word may on occasion be borrowed by one language from another, it is equally true that such basic items as pronouns and body parts are rarely borrowed. Furthermore, borrowing takes place between two languages, at a particular time and place, not between language families, across broad expanses of time and place. Thus to attribute the global similarities we document here to borrowing would be ludicrous. And as regards the alleged cases of *mass* borrowing in the Americas (the so-called "Pan-Americanisms"), Greenberg (1990: 11) quite rightly protests "that basic words and pronouns could be borrowed from Tierra del Fuego to British Columbia . . . is so utterly improbable that it hardly needs discussion." It seems to us even less likely that basic vocabulary—the grist for most of the etymologies we offer herein—could have been borrowed from one language to another all the way from Africa across Eurasia to South America.

CONVERGENCE

A common criticism of work like ours is that, with around 5,000 languages to choose from, it cannot be too hard to find a word in some African language that is semantically and phonologically similar to, or even identical with, some word in an American Indian language.¹ There are so many possibilities, runs this argument, that one can hardly fail to find accidental "look-alikes" everywhere (Goddard 1979, Campbell 1988). But this sort of mindless search is exactly the reverse of how the comparative method proceeds. The units we are comparing are *language families*, not individual languages (a language isolate like Basque has traditionally been considered, taxonomically,

¹ For a more fundamental discussion of convergence, see Chapter 2.

a family consisting of a single language). Specifically, we will be comparing items in the following 32 taxa, each of which we believe is a genetically valid group at some level of the classification: Khoisan, Niger-Congo, Kordofanian, Nilo-Saharan, Afro-Asiatic, Kartvelian, Indo-European, Uralic, Dravidian, Turkic, Mongolian, Tungus, Korean, Japanese-Ryukyuan, Ainu, Gilyak, Chukchi-Kamchatkan, Eskimo-Aleut, Caucasian, Basque, Burushaski, Yeniseian, Sino-Tibetan, Na-Dene, Indo-Pacific, Australian, Nahali, Austroasiatic, Miao-Yao, Daic (= Kadai), Austronesian, and Amerind.

One may legitimately wonder why, for the most part, we are comparing relatively low-level families like Indo-European and Sino-Tibetan rather than higher-level taxa like Eurasiatic/Nostratic and Dene-Caucasian, especially since both of us support the validity of these higher-level families (Bengtson 1991a,b, Ruhlen 1990a). We do this to emphasize that higher-level groupings do not require the prior working out of all the intermediate nodes, contrary to the opinion of most Amerindian specialists (the field is all but bereft of generalists!). As is well known, both Indo-European and Austronesian were recognized as families from the early years of their investigation, long before specialists had reconstructed all their intermediate levels (a task that is, of course, still incomplete). In taxonomy it is a commonplace that higher-level groupings are often more obvious—and easier to demonstrate—than are lower-level nodes. We maintain that this is particularly so when one considers the entire world. Current contrary opinion notwithstanding, it is really fairly simple to show that all the world's language families are related, as we shall see in the etymologies that follow. Discovering the correct intermediate groupings of the tree—the subgrouping of the entire human family—is a much more difficult task, and one that has only begun. Exactly the same is true of Amerind, which itself is a well-defined taxon (Greenberg 1987, Ruhlen 1991a); the subgrouping *within* Amerind involves far more difficult analyses and taxonomic decisions (Ruhlen 1991c).

Each of our 32 genetic groups is defined by a set of etymologies that connects grammatical and lexical items presumed to be cognate within that group; the postulated membership and putative subgrouping within each of these groups is given in Ruhlen (1987a). The precise number of etymologies defining each of the 32 groups ranges from several thousand (for close-knit and/or well-documented groups like Dravidian or Indo-European) to several dozen (for ancient and/or poorly studied groups like Indo-Pacific or Australian). For the most part the many etymologies defining each group have been discovered independently, by different scholars. (In this regard Greenberg's work—in Africa, New Guinea, and the Americas—represents an exception to the rule.) So instead of drawing our etymologies from thousands of *languages*, each containing thousands of words, we are, rather, limited to less

than three-dozen *families*, some of which have no more than a few hundred identifiable cognates. The pool of possibilities is thus greatly reduced, and accidental look-alikes will be few.

We believe that the failure of our critics to appreciate the truly minuscule probability of accidental similarities is the chief impediment to their understanding why all the world's languages must derive from a common origin. Accordingly, let us consider this question in some detail. Each of the etymologies we cite involves at least a half-dozen of the 32 supposedly independent families, precisely because the probability of finding the same accidental resemblance in six different families is close to zero. The multiplication of the (im)probabilities of accidental resemblance, as more and more families are considered, quickly assures the attentive taxonomist that similarities shared by numerous families, often separated by vast distances, cannot be due to chance. This crucial point has been emphasized by Collinder (1949), Greenberg (1957, 1963, 1987), and Dolgopolsky (1964), among others, but even Trombetti (1905) was well aware of the statistical importance of attestation in multiple families, rather than in just two. The biologist Richard Dawkins (1987: 274) makes the same point: "Convergent evolution is really a special kind of coincidence. The thing about coincidences is that, even if they happen once, they are far less likely to happen twice. And even less likely to happen three times. By taking more and more separate protein molecules, we can all but eliminate coincidence."

To see just how unlikely accidental look-alikes really are, let us consider two languages that each have just seven consonants and three vowels:

p	t	k	i	u
	s		a	
m	n			
	l			

With a few notable exceptions the vast majority of the world's languages show at least these phonological distinctions. Yet even this minimal inventory is capable of producing 147 CVC roots, as shown in Table 5. The probability of accidental phonological *identity* is only 1/147, though the probability of accidental phonological *resemblance* might be 2/147, 3/147, etc., depending on how many other phonological shapes in Table 5 are deemed sufficiently similar. A perusal of Table 5 suggests, however, that most of these putative roots are quite distinct phonologically and are not readily connected by common phonological processes.

TABLE 5 Possible CVC Roots for a Language with Seven Consonants and Three Vowels

KAK	LAK	MAK	NAK	PAK	SAK	TAK
KAL	LAL	MAL	NAL	PAL	SAL	TAL
KAM	LAM	MAM	NAM	PAM	SAM	TAM
KAN	LAN	MAN	NAN	PAN	SAN	TAN
KAP	LAP	MAP	NAP	PAP	SAP	TAP
KAS	LAS	MAS	NAS	PAS	SAS	TAS
KAT	LAT	MAT	NAT	PAT	SAT	TAT
KIK	LIK	MIK	NIK	PIK	SIK	TIK
KIL	LIL	MIL	NIL	PIL	SIL	TIL
KIM	LIM	MIM	NIM	PIM	SIM	TIM
KIN	LIN	MIN	NIN	PIN	SIN	TIN
KIP	LIP	MIP	NIP	PIP	SIP	TIP
KIS	LIS	MIS	NIS	PIS	SIS	TIS
KIT	LIT	MIT	NIT	PIT	SIT	TIT
KUK	LUK	MUK	NUK	PUK	SUK	TUK
KUL	LUL	MUL	NUL	PUL	SUL	TUL
KUM	LUM	MUM	NUM	PUM	SUM	TUM
KUN	LUN	MUN	NUN	PUN	SUN	TUN
KUP	LUP	MUP	NUP	PUP	SUP	TUP
KUS	LUS	MUS	NUS	PUS	SUS	TUS
KUT	LUT	MUT	NUT	PUT	SUT	TUT

Now were we to compare two languages with a more typical phonemic inventory, say, fourteen consonants and five vowels,

p	t	k	j	w	i	u
b	d	g			e	o
	č				a	
	s					
m	n					
	l					
	r					

we would find that the number of possible CVC roots in each language jumps to 980. Again, of course, the probability of chance resemblance will depend on certain phonological assumptions, but precious few accidental identities *or* resemblances, vis-à-vis the stock of some other language or group of languages, could be expected.

One may appreciate just how unlikely an explanation of chance resemblance—independent development in each family—really is by considering the prob-

ability that the resemblances noted in etymology 21 (below) arose by convergence. We have chosen this etymology for our argument because the meaning involved is rarely borrowed and has no onomatopoeic connections. It thus offers a clear case, where the similarities must be due either to common origin or to accidental convergence. Let us try to calculate the probability that these similarities arose independently. To do this we must make certain assumptions, and at each such stage we shall adopt a minimalist approach that in fact underestimates the true probability. Let us assume, as we did above, that each language family uses only seven consonants and three vowels, yielding the 147 syllable types shown in Table 5. What, then, is the probability that two languages will accidentally match for a particular semantic/phonological domain, in the present case 'female genitalia'? Clearly it is $1/147$ or .007. Whatever the form that appears in the first language family, the second family has only one chance in 147 of matching it. And the probability that a third family will offer a match will be $(1/147)^2$ or .000049; that of a fourth family, $(1/147)^3$ or .0000003; and so forth. In the etymology we give, 14 of the 32 taxa show apparent cognates, though the evidence is for the moment slim in Australian and the vowel in Austronesian (and many Amerind forms) is *e* rather than the expected *u*. But if we ignore these details, then the probability that the particular sound/meaning correlation "PUT/female genitals" arose independently *fourteen times* will be $(1/147)^{13}$, or about one chance in ten octillion, by our rough calculations. We feel that this qualifies as a long shot; certainly descent from a common source is the more likely explanation.

The foregoing constitutes what we consider to be the basis of genetic classification in linguistics. The application of these basic principles to the world's language families leads inevitably, in our opinion, to the conclusion that they all derive from a single source, as suggested by the 27 etymologies presented below. We have not yet dealt, however, with a number of other topics that in the minds of many linguists are inextricably tied up with taxonomy, questions like reconstruction, sound correspondences, and the like. We believe that these topics are not in fact of crucial importance in linguistic taxonomy, and that mixing the basic taxonomic principles with these other factors has led to much of the current confusion that we see concerning the classification of the world's languages. So that these ancillary topics not be invoked yet again, by those opposed to global comparisons, we will take them up one by one and explain why they are not relevant to our enterprise. Let us begin with a topic that is at the heart of many current disputes, the alleged incompatibility between Greenberg's method of multilateral comparison and the traditional methods of comparative linguistics.

MULTILATERAL COMPARISON VS. THE TRADITIONAL METHOD

Many linguists feel that Greenberg's use of what he calls multilateral comparison to classify languages in various parts of the world is incompatible with—or even antagonistic to—the methods of traditional historical linguistics, which emphasize reconstruction and sound correspondences (about which, see below). Thus, Bynon (1977: 271) claims that “the use of basic vocabulary comparison not simply as a *preliminary* to reconstruction but as a *substitute* for it is more controversial. . . . Traditional historical linguists . . . have not been slow in pointing out the inaccuracies which are bound to result from a reliance on mere similarity of form assessed intuitively and unsubstantiated by reconstruction.” In a similar vein, Anna Morpurgo Davies (1989: 167) objects that “we do not yet know whether superfamilies outlined in this way have the same properties as families established with the standard comparative method. If they do not, there is a serious risk that the whole concept of superfamily is vacuous.” And Derbyshire and Pullum (1991: 13) find Greenberg's Amerind hypothesis “startling, to say the least, when judged in terms of the standard methodology”

The confusion displayed in the previous three quotes (and one could give many others) results from a failure to realize that the comparative method consists essentially of two stages. The first stage is *classification*, which is really no different from what Greenberg calls multilateral comparison. The second stage, which might be called *historical linguistics*, involves family-internal questions such as sound correspondences and reconstruction. In practice, there is no name for this second stage simply because the two stages are seldom distinguished in the basic handbooks on historical linguistics, in which, almost without exception, the initial stage, classification, is overlooked (Bynon 1977, Hock 1986, Anttila 1989). Also overlooked in these basic texts are language families other than Indo-European. The origin of this anomaly—which knows no parallel in the biological world—is a consequence of the primogeniture of Indo-European in the pantheon of identified families, and the subsequent elaboration of the family by Europeans in the nineteenth century.

That the initial stage of comparative linguistics, classification, is so systematically overlooked today lies in the origin of the Indo-European concept itself. When Sir William Jones announced in 1786 that Sanskrit, Greek, and Latin—and probably Gothic and Celtic as well—had all “sprung from some common source,” he essentially resolved the first stage of comparative linguistics at the outset: he identified five branches of Indo-European and hypothesized that all five were altered later forms of a single language that no longer existed. What was left unstated in Jones's historic formulation was the fact that languages such as Arabic, Hebrew, and Turkish—languages that Jones knew well—were

excluded from his Indo-European family.² For Indo-European, and for the Indo-Europeanists who came to dominate historical linguistics, the problem of classification was essentially resolved by Jones, and the later additions of a few more obvious branches, such as Tocharian and Anatolian, did not alter this state of affairs.

The problems that Greenberg confronted, however, when he set out to classify the languages of Africa, were quite different from those facing a historical linguist investigating an already-defined family. Greenberg was confronted by over 1,000 languages, only some of which fit into well-defined families (e.g. Semitic, Bantu), and among which there was little understanding of the relationships. Under these circumstances, where does one start? Obviously the only way to begin is by the comparison of basic lexical items and grammatical formatives in *all* the languages, which inevitably leads to a classification of the languages into a certain number of groups defined by recurring similarities. This is exactly what Jones had done when he identified Indo-European, stressing, as he did, "a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident." He said nothing of sound correspondences or reconstruction, for in fact these concepts came to prominence (despite the earlier work of Rask, Grimm, and Bopp) only in the second half of the nineteenth century.

We believe, in short, that there is really no conflict between Greenberg's method of classifying languages and what is often referred to rather inexplicitly as "the standard methodology." The standard methodology is used to investigate family-internal problems; it does not—at least as it is explained in the basic textbooks referred to above—tell one how to identify language families. Accordingly, it does not tell one how to classify the world's languages. This, rather, is what Greenberg's work does, and it is, furthermore, how Greenberg views what he does. It has recently been alleged that he himself subscribes to the view that his methods differ from the standard methodology: "Greenberg (1987) makes clear that he believes such groupings [as Altaic, Hokan, and Amerind] cannot be reached by the standard comparative method; a wholly different method, MASS COMPARISON, is required" (Nichols 1990: 477). That this is, in fact, exactly the opposite of Greenberg's views is shown in the following:

Statements from certain American Indianists that I have rejected comparative linguistics and have invented a new unorthodox method called mass or multilateral comparison are repeated again and again in the press. However, as I clearly stated in Greenberg (1987: 3), once we have a well-established stock I go about comparing and reconstructing just like anyone else, as can be seen in my various contributions to historical linguistics. However, as I pointed out long ago in regard to my generally accepted African classification, the first step has to be to look very broadly,

² The term Indo-European was not introduced until the nineteenth century.

on at least a continent-wide scale, to see what the obvious groupings are. How can one start to apply the comparative method until one knows what to compare? (Greenberg 1990: 8)

RECONSTRUCTION

It is remarkable how frequently reconstruction is confounded with taxonomy. For a moment's reflection should make it clear that one can only begin reconstructing a proto-language *after* one has decided which languages belong to the putative family. Until one has delineated a set of seemingly related languages, collectively distinct from all others, by the methods outlined at the outset of this chapter, there is simply nothing to reconstruct. (After the fact, of course, reconstruction and (re)classification may enjoy a fruitful feedback.) And as for the supposed validating effect of reconstruction, would anybody claim that a bad reconstruction invalidates a well-defined family such as Indo-European? Or that a brilliant reconstruction could show that Slavic, Ob-Ugric, and Basque form a valid family? As a process, reconstruction is entirely different from taxonomy, and the two should not be confused. It is for this reason that Bynon's claim that Greenberg uses multilateral comparison as a "substitute" for reconstruction really makes no sense, and it is certainly not anything that Greenberg has ever written or said or even suggested.

SOUND CORRESPONDENCES

Perhaps the greatest source of confusion in recent taxonomic debates has been the role that sound correspondences, for example Grimm's Law, play in classification. It is clear that many historical linguists see regular sound correspondences as playing some crucial role in identifying valid linguistic taxa. In reality, sound correspondences are discovered only *after* a linguistic family has been identified, for the simple reason that sound correspondences are properties of particular linguistic families. They are not—and could not be—a technique for discovering families. When the Indo-European sound correspondences were worked out in the nineteenth century, not for a minute did any of the Indo-Europeanists imagine that they were "proving" Indo-European, the validity of which had not been in doubt for decades.

There are several reasons why sound correspondences have become enmeshed with taxonomic questions. First, it is sometimes alleged that it is only by means of regular sound correspondences that borrowings can be discriminated from true cognates. It has long been recognized, however, that loanwords often obey regular sound correspondences as strictly as do true cognates, a point emphasized on several occasions by Greenberg (1957, 1987). Campbell (1986: 224) makes the same point: "It ought to be noted that such

agreements among sounds frequently recur in a number of borrowed forms, mimicking recurrent sound correspondences of true cognates.”

Another alleged use of sound correspondences is to discriminate superficial look-alikes from true cognates (see the quote by Bynon above), and cognates, it is claimed, do not look alike and can only be recognized by means of sound correspondences. Thus, the commonly accepted Indo-European sound correspondences show that Armenian *erku* ‘2’ and Latin *duo* ‘2’ are cognate, despite their different form, whereas English *bad* and Farsi *bad* are not cognate, despite their identity of form. Campbell has aptly criticized such views:

Identical or very similar sound matchings do not necessarily imply loans or weak evidence of genetic connection. . . . With a time depth approaching that of the Indo-European languages of Europe, the Mayan correspondences are on the whole identical or are the result of single natural and recurrent changes. Proto-Mayan **p*, **m*, **n*, and **y* are reflected unchanged, with identical correspondences, in all of the over thirty Mayan languages. All other correspondences are very similar. Even English, after its many changes, reflects Proto-Indo-European **r*, **l*, **m*, **n*, **s*, **w*, and **y* unchanged, on the whole.

A quick survey of once-disputed but now established remote genetic relationships reveals that identical (or very similar) sound correspondences are not that unusual

Therefore, identical correspondences should not be shunned nor too speedily attributed to borrowing. While longer separation may provide greater opportunity for unusual and exotic correspondences to develop in cases of distant genetic relationship, it is in no way necessary for such developments to have taken place nor for correspondences to be non-identical” (1986: 221–23).

Indeed, when one looks at the reconstructions that have been proposed for almost any family, one is able to find modern languages that preserve the proposed ancestral forms virtually unchanged. To cite just a few examples, Proto-Indo-European **nēpot*- ‘nephew, son-in-law’ is strikingly similar to modern Rumanian *nepot*, and Proto-Indo-European **mūs* ‘mouse’ was preserved without change in Latin, Old English, and Sanskrit. Proto-Austronesian **sepat* ‘2’ is almost identical with Rukai *sepate*, and Proto-Austronesian **mat*^a ‘eye’ is identical with Rukai *mat*^a. Proto-Uralic **tule* ‘fire’ is preserved in Finnish *tule*-, and Proto-Uralic **moška* ‘to wash’ differs little from Estonian *möske*-. At an even greater time depth, we find that Proto-Nostratic **nato* ‘female relation by marriage’ has survived, in Uralic, as Finnish *nato* ‘husband’s or wife’s sister’ and, in Dravidian, as Malayalam *nāttūn* ‘husband’s sister, brother’s wife,’ while Proto-Nostratic **p^halV* ‘tooth’ survives in Dravidian as Telugu *palu* and in Altaic as Uch *palu*. At a time depth perhaps even greater than that of Nostratic, we find Proto-Australian **buṅku* ‘knee’ preserved in Dyirbal *buṅku*.

In the etymologies we present below, connecting all of the world’s language families, the situation is not all that different from that within the families

just discussed. There are, in fact, many examples of sound correspondences of the transparent variety discussed by Campbell. This initial stage of the analysis is necessarily characterized by the identification of easily recognizable similarities, just as was the discovery of Indo-European or any other family. The refinement represented by exotic sound correspondences of the *erku-duo* variety inevitably awaits a later stage in the analysis—the second stage, which we have called “historical linguistics.” And it is important to recognize that the work of this stage leads almost invariably to a refinement of the *etymologies*, rather than a refinement of the *classification*.

Among the world’s language families, there are no doubt exotic sound correspondences as well that we have not detected. It should be noted, nevertheless, that as early as 1986 one of us (Bengtson) proposed some global sound correspondences, and the Russian scholar Sergei Starostin (1991) has recently published the most explicit statement of interphyletic sound correspondences to date. His brief table of Nostratic–Dene-Caucasian correspondences, though not quite global in scope, accounts for a vast expanse of the linguistic world. Nostratic, for Starostin, includes ten of our 32 taxa (Kartvelian, Indo-European, Uralic, Dravidian, Turkic, Mongolian, Tungus, Korean, Japanese-Ryukyuan, and Eskimo-Aleut), and Dene-Caucasian, for Starostin, includes Caucasian, Sino-Tibetan, Yeniseian, and Na-Dene—to which one may confidently add both Basque and Burushaski (Bengtson 1991a,b). Thus, Starostin’s equations account for roughly half of our 32 taxa, as well as the vast majority of the Eurasian land mass. We find nothing in Starostin’s correspondences that is inconsistent with the etymologies proposed below.

ON THE LIMITS OF THE COMPARATIVE METHOD

It has recently been widely asserted that the comparative method in linguistics produces reliable results only for the past 5,000–10,000 years. According to Kaufman (1990: 23), “A temporal ceiling of 7,000 to 8,000 years is inherent in the methods of comparative linguistic reconstruction. We can recover genetic relationships that are that old, but probably no earlier than that. The methods possibly will be expanded, but for the moment we have to operate within that limit in drawing inferences.” Similar statements from a host of other scholars are given in Chapter 11, where such beliefs are identified as the central myth of historical linguistics (Chapter 13 further analyzes such myths). The origin of this myth, we believe, is an attempt by Indo-Europeanists to “explain” why Indo-European has no known genetic connections—in our view yet another myth. The fact that Indo-European is intimately connected with numerous other families has been demonstrated beyond a reasonable doubt by the Russian Nostraticists (Illich-Svitych 1971–84), a demonstration that is complemented and extended by Greenberg (to appear).

We have shown that in numerous cases sounds (particularly stable ones like nasal consonants and liquids)—and even entire words—have persisted over time spans greater than 8,000 years virtually unchanged. This raises the question why these evidently quite stable sounds must suddenly change beyond recognition, or disappear entirely, beyond the supposedly insuperable threshold of 10,000 years. If we can use modern languages to reconstruct proto-languages that existed at least 6,000–8,000 years ago (e.g. Proto-Indo-European, Proto-Uralic, Proto-Dravidian, Proto-Austronesian), why cannot such earlier languages themselves be compared (as in fact we will do) in order to discern still earlier groupings? Would it not be one of the more remarkable coincidences in the history of science if Indo-European, the family in terms of which comparative linguistics was discovered, turned out to define the temporal limit of comparative linguistics as well? That there is no such coincidence is amply demonstrated in the etymologies we give below. We feel it is time for linguists to stop selling the comparative method short and to apply it consistently to the world's linguistic taxa, *without preconception*. The present chapter represents a step in this direction, an initial step that shows that all of the world's populations are linguistically connected. The culmination of these efforts will be a comprehensive subgrouping of this single linguistic family.

BAD SEMANTICS

Another criticism of global etymologies in particular, and of long-range comparison in general, is that such liberties are taken with semantic change that literally anything can be connected with anything else, and it is certainly true that many global etymologies proposed over the years have been semantically unconvincing. But for just that reason we have constrained the semantic variation of each etymology very tightly, and few of the semantic connections we propose would raise an eyebrow if encountered in any of the standard etymological dictionaries. They are in fact semantically more conservative than many proposed connections in Pokorny (1959), the standard Indo-European etymological dictionary. Whatever damage this often alleged defect may have done to earlier programs of long-range comparison, we believe that it does not affect the etymologies presented below.

ERRORS IN THE DATA

Another often-cited criticism of long-range comparison is the presence of errors in the data, errors that invalidate the overall hypothesis. This is a specious argument, for it ignores both common sense and the standard measures of statistical significance. Genetic classification is not analogous to a mathematical proof, wherein one false step undermines the complete demon-

stration. Rather, the cumulative weight of all the evidence completely swamps the effects of whatever random errors may be scattered through the work. As Greenberg has often stressed—and has in fact shown in his work—multilateral comparison yields valid genetic classifications even from decidedly degenerate data. An example was Greenberg's classification of Australian languages in 1953, using little more than the vocabularies published by E. M. Curr in 1886–87. The notion that data must be pristine and copious flies in the face of commonly accepted historical method. It is all well and good for Kaufman (1990: 18) to demand at least 500 items of basic vocabulary and 100 points of grammar before “serious comparative work” can be carried out, but the fact remains that Indo-Europeanists have classified Lydian as Indo-European, without dissent, on the basis of a handful of words, as noted by Greenberg (1990: 10). Similarly, David Payne (1991: 362) reports that “all that remains of the [Shebayo] language is a vocabulary list of fifteen words collected at the end of the 17th century. . . . Despite the paucity of data from this language, it is quite clear that it is Arawakan.” Historians and historical linguists—not to mention paleontologists working from handfuls of bashed fossils—use whatever material is available; they do not demand that the evidence be complete or immaculate.

DISTRIBUTIONAL DIFFERENCES

It is often alleged that one can find anything in linguistic data if one looks for it hard enough. Thus the global etymologies we present below are a tribute more to our industry and enterprise than to real genetic connections. Such a view is widespread among linguists who have never actually compared large numbers of languages (or language families), but those of us who *have* done this kind of work know the reverse to be true. “Wanting” to find something is of very little help if it is not there. Greenberg (1987) points out that the Amerind family has two general words for females, TUNA ‘girl’ and KUNA ‘woman.’ Both roots are abundantly attested throughout North and South America, and both are found in all eleven branches of the Amerind family. What is interesting about their distribution, however, is that whereas KUNA is widely attested in the Old World, as we show in etymology 11 below, we have found no trace of TUNA in the Old World. If it were really so easy to find anything one looks for, why did we fail to find TUNA in the roughly 4,500 Old World languages, when it is so readily observed in the approximately 500 New World languages? The evolutionary analysis provides a simple and natural explanation: when the Amerind forebears first entered the New World they brought with them the word KUNA ‘woman,’ and only later did they invent the word TUNA ‘girl.’ That there is no trace of TUNA ‘girl’ in the Old World is because it never existed there.

GLOBAL ETYMOLOGIES

For each etymology, in what follows, we present a phonetic and semantic gloss,³ followed by examples from different language families. Though we have not attempted to present a unified phonetic transcription for all sources, we *have* adjusted certain transcriptions from time to time to avoid potential ambiguity. In the first etymology (but not elsewhere) yod has been normalized to *j* in all citations. Ejectives have been normalized to *p'*, *t'*, *k'*, etc.; *V* represents a vowel of indeterminate timbre; *ŷ* is used for the Old Church Slavic soft sign and *ŭ* for the hard sign; and *~* separates alternative forms. In the two interrogative etymologies (10, 17), interrogative and relative uses are not distinguished ('who?' as in "Who is that man?" vs. 'who' in "The man who came to dinner."). The intimate connection between the two is well known and uncontroversial. Most of the cited forms are, however, true interrogatives.

The source of the information for each family represented in a given entry is indicated by an abbreviation in brackets at the end of the entry. The number following the abbreviation is either the etymology number in the original source (if there is one) or the page number there. Since the existence of these roots as characteristic features of the language families cited has already been established by other scholars, and is not for the most part in question, we do not give the complete documentation for each family, limiting ourselves in most instances to an indication of the range of semantic and phonological variation within the family. The reader who wishes to see every relevant form for a given family should consult the sources cited. For Amerind, however, we give extensive citations, in order to counterbalance the fallacious criticism that has been directed at Greenberg's work. Parts of etymologies that are problematic, by dint of either phonetic or semantic divergence, or by restricted distribution, are preceded by a question mark. The lack of a semantic gloss following a form means that that form has the same meaning as the preceding form.

We make no claim to being the first to discover any of the etymologies listed below. The pioneering work of Trombetti, Swadesh, Greenberg, Illich-Svitych, Dolgopolsky, and Starostin has identified numerous widespread roots. What we *have* tried to do is to make each etymology more complete and more soundly documented in this incarnation than it may have been in previous ones. With this goal in mind we have weeded out certain families from pre-

³ We do not deal here with reconstruction, and these glosses are intended merely to characterize the most general meaning and phonological shape of each root. Future work on reconstruction will no doubt discover cases where the most widespread meaning or shape was not original.

vious proposals, where the root was phonologically or semantically too divergent, or too weakly attested, to be convincing. But we believe we have also uncovered some additional etymological connections that had previously gone unnoticed. To a very great extent the recognition of these similarities has been made possible by the lower-level classificatory work of Greenberg in Africa, the New Guinea area, and the Americas, and by that of Russian scholars on Kartvelian, Caucasian, and other families of the former Soviet Union. Before all this work appeared, in recent decades, it was difficult, if not impossible, for a taxonomist to be sure that a root was truly diagnostic of some family, simply because there was no understanding of what the valid genetic families were, much less what cognates defined them. Trombetti, for example, dealt in terms of languages only where he was forced to by a lack of any general overall classification. Wherever possible, he worked with established language families (e.g. Indo-European, Uralic, Bantu), since he was well aware of the unavoidable methodological quandary presented by poorly documented families.

We harbor no illusions, of course, that every etymological connection we propose will be found, ultimately, to be correct, but we do believe that the removal of such errors as may exist in these etymologies will not seriously affect the basic hypothesis, which does not depend on any specific link for its validity. Furthermore, the number of widespread etymologies can be vastly increased over the fragment we present here. In the long run we expect the evidence for monogenesis of extant languages to become so compelling that the question will be not whether all the world's languages are related, but why it took the linguistic community so long to recognize this obvious fact.

1 AJA 'mother, older female relative'

KHOISAN: ≠Au.//eĩ ai 'female, mother,' !Kung ?ai 'mother'; Naron ai, Hadza *aia* ~ *aijako* 'mother, grandmother, aunt'; /'Auni *aia* 'mother.' [BD 6]

NIGER-CONGO: Temne -*ja* 'mother,' Bulom *ja*, Yoruba *ija*; Bantu: Proto-Bantu **jǝ̀* ~ **jǝ̀̀*. [BA IV: 190]

NILO-SAHARAN: Saharan: Daza *aja* 'mother,' Kanembu *jia* ~ *ja*, Kanuri *ja*; Fur *ija*; Maban: Runga *ja*; Koman: Gumuz *ijo*; Central Sudanic: Mangbetu *aja*, Madi *ia*, Lombi *jaija*; East Sudanic: Gulfan *aja*, Midob *ija*, Suk *iju*, Nyangiya *joiiao* 'thy mother.' [NS 95, CN 67, ES 77, NSD 43]

AFRO-ASIATIC: Omotic: Wolamo *ajē* 'mother'; Cushitic: Oromo *ajo*, Somali *hoojo*; Chadic: Kotoko *īja* ~ *ija* ~ *ja*, Mubi *ījà*. [WM 64]

DRAVIDIAN: Tamil *āj* ~ *āji* ~ *jaj* 'mother,' *ājāl* 'mother, grandmother,' Kannada *āji* 'mother,' Kolami *aj*, Parji *ajal* 'woman, wife,' *ija* 'mother,' Gadba *aja* 'mother,' *ajal* 'woman, wife,' Gondi *ajal* 'mother,' Konda *aja*, Pengo

- aja* ~ *ija*, Manda *aja*, Kui *aia* ~ *aja* ~ *ija*, Kuwi *īja* 'mother,' *aja* 'woman,' Kurux *ajang* ~ *ajo* 'mother,' Malto *āja* 'my mother.' [D 364, NSD 43]
- BURUSHASKI -*ai* 'daughter, girl.' [B 455]
- ?INDO-PACIFIC: Isabi *aijo* 'mother,' Korafe *aja*. [FS 99]
- NAHALI *aji* 'husband's younger sister.' [NA 59]
- AUSTROASIATIC: Munda: Sora *ajan-tsor* 'bitch' (= female-dog, cf. *kin-tsor* 'male dog'); Mon-Khmer: Proto-Mon-Khmer **ja?* 'grandmother.' [PB 482, SB 34]
- MIAO-YAO: Proto-Yao **ja* 'father's sister.' [PB 339]
- DAIC: Tai: Proto-Tai **ja* 'father's mother'; Sek *ja*; Kam-Sui: Proto-Kam-Sui **ja* 'grandmother,' Sui *ja* 'grandmother, old woman'; Li: Proto-Li **ja* 'mother, grandmother,' Small Cloth Loi *ja* 'mother'; Lakkia *jə* 'grandmother.' [PB 339]
- AUSTRONESIAN: Proto-Austronesian **ajah* 'father,' Atayal *jaja?* 'mother,' Pazeh *jah* 'older sister,' Malay *'ajah* 'father,' Javanese (*j*)*ajah* 'father.' [AN 13, WW 74, PB 339]
- AMERIND: Penutian: North Sahaptin *ájaD* 'woman,' Nez Perce *?ajat*, Tzotzil *jaja* 'grandmother'; Hoka: Washo *-ja* 'paternal aunt,' Quinigua *?jaak*, Tonkawa *?ejan* 'woman's sister'; Central Amerind: Tewa *jia* 'mother,' Proto-Oto-Manguean **ja* 'female,' Proto-Uto-Aztecan **je* 'mother,' Tarahumara *ije*, Yaqui *?aije*, Nahuatl *-je?*; Chibchan-Paezan: Xinka *aja* 'woman,' Matagalpa *joaja*, Cuna *jaa-kwa* 'young woman,' Colorado *aja* 'mother'; Andean: Ona *joj* 'grandmother,' Auca *-jæjæ*; Macro-Tucanoan: Amaguaje *ajo* 'old woman,' Masaka *jaja* 'older sister,' Ticuna *jake* 'old woman'; Equatorial: Mapiyana *aja* 'aunt,' Tora *ije* 'paternal grandmother,' Arikem *haja* 'aunt'; Macro-Panoan: Mayoruna *jaja*, Shipibo *jaja* 'paternal aunt,' Moseten *eje* 'grandmother,' *jaja* 'mother-in-law'; Macro-Carib: Accawai *aja* 'mother'; Macro-Ge: Coropo *ajan*, Coroado *ajan*, Palmas *jã*. [CA 55, AMN]

2 BU(N)KA 'knee, to bend'

- NIGER-CONGO: Baga *-buŋ* 'knee,' Pajade *-paŋ*, ?Lefana *-ŋko*; Bantu: Proto-Bantu **bóngó*, Swahili *bong'oa* 'to stoop, bend down.' [BA III: 57]
- KORDOFANIAN: Tegele *mbo* 'knee' (pl. *abqan* ~ *abuan*). [VB]
- AFRO-ASIATIC: Omotic: Dime *boq* 'knee,' Bako *boya*, Basketo *buqa*, Oyde *bunke*; Chadic: Fyer *fuŋ* 'knee,' Bura *buŋji* 'knee.' [VB]
- INDO-EUROPEAN: Proto-Indo-European **bheug(h)* 'to bend'; Indic: Sanskrit *bhugná* 'bent'; Germanic: Gothic *biugan* 'to bend,' Old Icelandic *bogenn* 'bent,' English bow, elbow; Celtic: Proto-Celtic **buggo* 'flexible, malleable,' Irish *bog* 'soft'; Albanian *butë* (< *bhug(h)-to*) 'soft'; Baltic: Latvian *baūgurs* 'hill, rising ground.' [IE 152, N 25]

- TURKIC: Proto-Turkic **bük(ä) ~ *böc(ä)* 'to bend,' Chuvash *pěc ~ pők* 'to bend,' Yakut *bük*, Khakas *bükri* 'bent,' Old Uighur *bük ~ böc* 'to twist,' Uighur *bük ~ böc* 'to kneel.' [N 25]
- MONGOLIAN: Proto-Mongolian **böke* 'to bend,' Written Mongolian *bökeji ~ bököji* 'to cave in, sag' *böken* 'hump of a camel,' *bökötür* 'bent,' Khalkha *bóx(ón)* 'hump of a camel,' Kalmyk *bökp* 'hump, humped.' [N 25]
- TUNGUS: Proto-Tungus **bök(ä)* 'to bend,' Manchu *buk(-da)*, Nanai *bukun* 'hump,' Evenki *bukä* 'to bow,' *buku* 'bent, crooked,' *bākä* 'hump.' [N 25]
- AINU *he-poki-ki* 'bow down,' *he-poki-poki* 'to nod the head.'
- INDO-PACIFIC: Halmahera: Tobelo *buku* 'knee,' Modole *bubuqu*, Loda *wuwu-ku*; Bougainville: Koianu *poku*; South New Guinea: Teri Kawalsch *bugu*; Northeast New Guinea: Saker *bakbakan*. [IP 43]
- AUSTRALIAN: Proto-Australian **puŋku* 'knee,' Tyeraity *böŋgöl*, Maranunggu *bingar*, Guugu Yimidhir *buŋgu*, Kok-Nar *poŋk ~ púnkuwál*, Gugu-Badhu *buŋguyal*, Kukatj *poŋkipal*, Dyirbal *buŋgu* 'knee, bend in the river, wave,' Yidiny *buŋgu* 'knee, hump in a snake's body.' [NP 232, RD 110, 123, 223]
- AMERIND: Proto-Algonquian: **wāk-* 'bend,' Blackfoot *woxos* 'shin' (from an earlier meaning of 'knee,' as seen in Maidu *pok'ósi*), Bella Bella *wak-* 'bent,' Crow *išbaxe* 'elbow,' Hidatsa *išpaḥi* 'elbow,' Caddo *buko* 'knee'; Penutian: Tfalatik *pəsq* 'bow' (with metathesis, from earlier **pəqVs*), Kalapuya *oposqu* 'bow' (with metathesis), Maidu *pok'ósi* 'knee,' Nisenan *p'əkkasi* 'elbow,' Zuni *poʔku* 'to fold,' Texistepec *boka* 'elbow,' Pokonchi *bak* 'crooked,' Sierra Popoluca *pikši* 'bow,' Mixe *kupokš* 'elbow'; Hokan: Shasta *ʔičipka* 'knee,' Achomawi *lupuʔisi* 'bow,' Chumash *sibuk ~ šipuk* 'elbow,' Walapai *mipuk* 'knee,' *phúʔ* 'bow'; Central Amerind: Varohia *čopokori* 'knee'; Chibchan-Paezan: Guamaca *buka* 'knee, elbow,' Rama *buk* 'twist,' Atanque *buküh-köna* 'knee,' Warrao *oboka* 'elbow,' Colorado *te-bunga* 'elbow,' Cayapa *ne-bumbuka* 'knee,' Chimu *č'epuk*; Andean: Jebero *pöktenja* 'bow,' Ona *epekten* 'elbow,' Alakaluf *kolpakar* 'knee'; Macro-Tucanoan: Iranshe *poku* 'bow (n.),' Proto-Nambikwara **pako* 'crooked,' **pok* 'bow (n.)'; Equatorial: Paumari *amabokoi* 'elbow,' Guarañoca *pokà* 'bow,' Cuiva *tabóko* 'knee,' Palicur *ubowʔi*, Karif *bugunuge* 'elbow'; Macro-Carib: Miranha *thüboqua* 'bow,' Apiaca *topkat*; Macro-Panoan: Mayoruna *mupukušau* 'elbow,' Panobo *waʔpuško* 'elbow' (with metathesis), Sapiboca *embako* 'elbow,' Tiatinagua *waku*; Macro-Ge: Mohačobm *pokai* 'bow,' Umotina *boika*, Bororo *boiga*, Opaie *či-ṗege-ri* 'elbow.' [AM 157, MT 16, AMN]

3 BUR 'ashes, dust'

NILO-SAHARAN: Songhai: Gao *bonni* 'ashes,' Djerma *boron*; Berta *bub(u)?da*; Central Sudanic: Bongo *buru-ku*, Keliko *ɔfɔrago*; East Sudanic: Kenzi, Birgid *u-burti*, Murle *būr*, Mursi *burr*, Balé *bur*, Shilluk, Bor *bur*, Lango *buru*, Alur *burru*. [NS 9, CN 7, ES 5, NSD 6, NSB]

AFRO-ASIATIC: Proto-Afro-Asiatic **b(w)rH* 'loose soil, sand, dust'; Semitic: Proto-Semitic **br* 'dust,' Arabic *baraḡ* 'dust, soil,' Mehri *berōr* 'sandy seashore,' Classical Hebrew *bar* 'field, open space,' Proto-Semitic **bwr* '(fallow) ground,' Arabic *bawr* 'fallow ground,' Syriac *būrō*, Akkadian *bāru* 'open space'; ?Berber: Shilha *tamurt* 'soil'; Cushitic: Beja *būr* 'soil,' Bilin *birā* 'soil,' Saho *baṛo*, Afar *baḷō*, Somali *berri*; Chadic: Proto-Chadic **bwr* 'sand,' Angas *'bur* 'sand, dust,' Logone *būrā*, Gider *burduku* 'soil.' [CS 398, N 22]

KARTVELIAN: Svan *buryw* 'to raise dust,' *biryw* (< **buryw-i*) 'dust, ashes,' ?Middle Georgian *bre*. [N 22]

URALIC: Proto-Uralic (Illich-Svitych) **porV* 'dust, sand, dirt'; Samoyed: Kamassian *piṛe* 'sand'; Ugric: Ostyak *per* 'ashes'; Finnic: Finnish *poro* 'hot ashes, coarse dust,' Estonian *pori* 'mud,' Mansi *pors* 'sweepings.' [U 68, N 22]

DRavidIAN: Proto-Dravidian **pūrV* ~ **porV* 'loose soil, sand, dust,' Malto *porsi* 'sweepings,' Naikri *bur̥di* 'ash,' Telugu *būḍida* 'ashes,' Tulu *poyyē* 'sand,' Malayalam *puṛuti* 'dust, earth,' pūyi 'sand,' Tamil *puṛuti* 'dust, dry earth,' pūri 'powder, dust.' [D 4316, N 22, NSD 6]

TURKIC: Proto-Turkic **bōr*, Chuvash *pur(ă)* 'chalk,' Tuva *por* 'clay,' Jakut *buor* 'soil, clay, dust,' Altai *pur* 'ashes,' Uighur *bor*, Kazakh *bor* 'chalk.' [N 22]

MONGOLIAN: Khalkha *bur* 'dirty, muddy, dark,' Buriat *bur* 'silt, swamp, clay.' [N 22]

TUNGUS: Manchu *buraki* 'dust, sand,' Nanai *buräxin* 'dust,' Oroch *buräxi*. [N 22]

?ESKIMO-ALEUT: Proto-Eskimo-Aleut **pujV* ~ **apju* 'dust, mud, soot.' [EA] BURLASHASKI *bur-di* 'the ground.'

?INDO-PACIFIC: Tasmanian *būrana* 'smoke.'

AUSTRALIAN: Proto-Australian **burin* ~ **burinj* 'smoke.' [AC 75]

AMERIND: Chibchan-Paezan: Cuna *piru* 'ashes,' Uncasica *bura*, Manare *oka-bora*, Move *ñio-bru*, Guatuso *purun*, Catio *pōra* 'dust'; Andean: Lupaca *purka* 'ashes'; Equatorial: Shuara *pupuur* 'dust,' Bare *baridi* 'ashes,' Wapishana *parati*, Goajiro *purpura* 'dust'; Macro-Panoan: Taruma *gula-paru* 'powder'; Macro-Carib: Yagua *pupāndru* 'ashes'; Macro-Ge: Proto-Ge **prə* 'ashes,' Krenje *pro*, Cayapo *pra* 'embers,' Guato (*ma-*)*fora(-ta)* 'ashes,' Caraja *brībi*. [AM 11, AMN]

4 ČUN(G)A 'nose; to smell'

KHOISAN: ≠Au.//eĩ č'ũ 'nose,' !Kung t^sũ ~ sũ, !O-!Kung tⁿ ~ čn; G//abake čui, Naron sō 'to snuff,' Nama suni 'sniff, smell from'; /Xam sũ 'snore,' //Ng-!e sũ?wa 'blow the nose,' Kakia /nuha čuni 'nostrils.' [K 89, SAK 488, 489, HF 1:10]

NILO-SAHARAN: Saharan: Zagawa sina 'nose,' Berti sano; East Sudanic: Meidob i-siŋi 'nose,' Ongamo (a-ta-)siŋa 'to sneeze,' Ik sik'wa 'to sneeze'; Central Sudanic: Shabo čona ~ šona 'nose.' [NSB, KER, HF 12]

AFRO-ASIATIC: Proto-Afro-Asiatic *t(w)n ~ *t(j)n 'smell; Ancient Egyptian śn 'to smell,' śnśn 'to breathe'; Omotic: Proto-Omotic *sin-t 'nose,' Basketo sinča, Chara siŋā, Gimira sint, Mao šinto; Cushitic: Burgi suna, Konso sona, Tambaro sana, Somali san, Kaffa činno 'odor,' Saho sīn 'to smell'; Chadic: Hausa súnsùnā ~ sánsàñā 'to smell,' Bachama šine, Bata činne, Klesem siŋ, Bana činan, Dari šin. [AA 54, N 51, HF 1:10]

KARTVELIAN: Georgian sun 'odor, to smell.' [N 51]

INDO-EUROPEAN: Proto-Indo-European *snā 'to flow, dampness, nose'; Germanic: Proto-Germanic *snu 'to smell, nose,' Swedish snus 'snuff,' snuva 'runny nose,' German snau 'snout, beak,' Old Icelandic snoppe 'to snuff,' Norwegian snūt 'nose,' English 'snout, sniff'; Baltic: Lithuanian snukkis 'snout.' [IE 971]

URALIC: Proto-Uralic (Illich-Svitych) *čũŋV 'to smell, odor, smoke,' (Rédei) *śaŋkə 'smell, taste'; Samoyed: Nenets t'uiñē ~ tiñē 'to smell'; Ugric: Vogul seeŋkw 'mist, vapor'; Finnic: Votyak čyŋ ~ šyŋ 'smoke,' Zyrian čyn 'smoke,' ?Finnish henki 'breath, spirit.' [U 97, N 51, KR 462]

DRAVIDIAN: Tamil cuŋtu 'bill, beak,' Malayalam cuŋtu 'beak, lips, snout,' Kannada cuŋdu 'a bird's beak,' Parji conḍ 'mouth, beak,' Pengo conḍi 'beak of a bird,' Kui suḍa 'mouth, beak,' Kuwi honḍi 'mouth.' [D 2664]

CAUCASIAN: Proto-Caucasian *sHwĩInt' 'to smell, snot,' Proto-Avar-Andi *s^wint'V 'to smell, snuff,' Avar šunt' 'snuff,' sunt'(-ize) 'to smell,' Dargi sunt' 'scent, odor,' Lak šunt' 'snuff,' Proto-Lezghian *s^wĩInt' 'snot,' Tsaxur suInt' 'snot,' ?Hurrian sunA 'breath, soul.' [HF 1:10, C 190]

BASQUE su-dur 'nose,' sun-da 'smell.'

BURUSHASKI šũŋ (etas) ~ šũ (etas) 'to smell.' [B 335]

SINO-TIBETAN: Karen suŋ 'odor'; Tibeto-Burman: Proto-Tibeto-Burman *sVna 'nose,' *suŋ 'smell,' Tibetan sna, bsuŋ 'smell (sweet),' Nung səna, Janggali sina, Digaro həna(-gam), Burmese hna, sàŋ 'emit a pleasant odor.' [ST 101, 405, HF 1:10]

NA-DENE: Haida sánjuu 'smell,' sīnaŋ 'sniffing'; Tlingit čan 'stench'; Eyak čāh ~ čā? 'stink'; Athabaskan: Proto-Athabaskan *-čĩn-ɬ 'nose,' Galice šan ~ šāā 'smell,' Kato čən 'smell.' [ND]

- INDO-PACIFIC: Baruya *sinna* 'nose,' Musak *sinami*- 'to smell.' [FS 105]
 NAHALI *čōn* 'nose.' [NA]
 MIAO-YAO: Miao *tsinyu* 'nose,' Yao (*pu-*)*tsoN*. [HF 1:10]
 DAIC: Ong Be *zoŋ* 'nose,' *suŋ* (*mu*) 'to blow the nose' (= to-blow [nose-mucus]). [PB 345]
 AUSTRONESIAN: Proto-Austronesian **iğun* ~ **uğun* 'nose,' Kuvalan *uğun*, Proto-Philippine **suŋaD*, Proto-Oceanic **isu(ŋ)* ~ **untsu(ŋ)*, Fijian *utsu*, Proto-Polynesian **isu*; Proto-Austronesian **t'uŋaɭ* ~ **suNar* 'to sneer, turn up the nose.' [AN 67, 158; WW 139, 227; PB 345]
 AMERIND: Almosan-Keresiouan: Seneca *?osēnō?* 'smell,' Chiwere *sīŋe*, Tutelo *sūw* 'stink'; Penutian: Wintu *sono* 'nose,' Chukchansi *sinik*, Gashowu *sīn-wiyi* 'to blow the nose,' Yokuts *šēniṭ* 'smell,' Yaudanchi *senk'a* 'smell,' Huave *šink* 'nose,' Santa Cruz *suunta* 'snot,' Lake Miwok *šin-* 'blow the nose,' Central Sierra Miwok *sēŋ-aH* 'smelly thing'; Central Amerind: Tewa *sū* 'smell,' Kiowa *sē*, Proto-Central Otomi **šīñũ* 'nose,' South Pame *šinyũ*; Chibchan-Paezan: Atanque *sun-kōna* 'beak,' Binticua *misun-a* 'nose,' Move *inson*, Colorado *sin*, Timicua *čini*; Andean: Sek *čuna*, Leco (*bi-*)*činua*, Proto-Quechuan **sinqa*; Macro-Tucanoan: Ubde-Nehern *činuehei* 'smell,' Yuri *čunama*; Equatorial: Campa *asanki-ro*, Callahuaya *čini* 'nose,' Caranga *čonangā* 'stink.' [AK 175, CP 133, A 79, 106, AMN]

5 KAMA 'hold (in the hand)'

- KHOISAN: Zhu *xóm(-xéi)* 'rub back and forth'; Kxoe *xôm* 'crush with the hands.' [SAK 852]
 NIGER-CONGO: Dagomba *kam* 'squeeze,' Nupe *kã*, Proto-Bantu **kama*, Swahili *kama* 'to squeeze, to milk,' *kama-ta* 'to take hold, seize, grasp.' [KS 59, BA III: 263]
 ?NILO-SAHARAN: Songhai *kaŋkam* 'squeeze' (< **kamkam* ?). [KS 59]
 AFRO-ASIATIC: Proto-Afro-Asiatic **km* 'seize, take, squeeze'; Semitic: Akkadian *kamũ* 'to capture,' Arabic *kamaša* 'seize, grasp'; Cushitic: Dahalo *kam* 'to hold,' Kwadza *komos* 'to grip,' Iraqw *kom* 'to have'; Berber: Twareg *ekmem* 'squeeze'; Chadic: Hausa *kāma* 'to catch,' Musgu *kaw* 'seize,' Gidar *gəma* 'to take,' Masa *čum*. [AA 63, N 157, AB 160]
 INDO-EUROPEAN: Proto-Indo-European **gem* ~ **gemō* 'to grasp with both hands, seize'; Armenian *čmlem* 'I squeeze'; Greek *geuto* 'he took' (< **gem-to*); Celtic: Old Irish *gemel* 'fetters'; Germanic: Old Swedish *kumla* 'to crumple'; Baltic: Latvian *gūmstu* 'to seize, grasp'; Slavic: Old Church Slavic *žǫmŭ* 'I press, squeeze.' [IE 368, N 157, AB 171]
 URALIC: Proto-Uralic (Illich-Svitych) **kama-IV* ~ **koma-rV* 'handful,' (Rédei) **komə(rə)* 'palm of the hand,' (Rédei) **kāme(-ne)*; Samoyed: Yenisei Samoyed *hammara* 'hand'; Finnic: Finnish *kamahlo* ~ *kahmalo*

- 'double handful,' Estonian *kamal* 'handful,' Mordvin *komoro*, Saami *goabmer* 'double handful.' [U 42, N 157, KR 137, 175]
- DRAVIDIAN: Proto-Dravidian **kamV* 'to seize, take, hold,' Koraga *kamdi* 'to steal,' Telugu *kamucu* 'to hold, seize,' Malto *kam* 'to gather (by oneself).' [D 1326, N 157]
- TURKIC: Proto-Turkic **kam-a* ~ **qam-a* 'to take, seize,' Old Uighur *qama* 'to take prisoner, surround,' Kirghiz *kama* 'to surround, arrest,' Tatar *kama* 'to herd cattle into a pen,' Nogai *kam-ty* 'to seize.' [N 157]
- MONGOLIAN: Written Mongolian *qamu* 'to gather, pick up,' Khalkha *xamă* 'to gather, pick up.' [N 157]
- TUNGUS: Proto-Tungus **kama* ~ **kamu* 'to press, oppress, forbid,' Nanai *kama-le* 'to press, clasp,' Olcha *kama-lu* 'to forbid,' *kama-lǵu* 'to press,' Orok *kamu-i* 'to take in one's arms, seize,' Evenki *kama* 'deny assistance to, oppress.' [N 157]
- CAUCASIAN: Proto-Caucasian **k'emV* 'armful, handful,' Proto-Lak **k'ama* 'handful,' Proto-Lezghian **k'em(a)* 'armful.' [C 124]
- ?INDO-PACIFIC: North New Guinea: Arapesh *kum* 'to steal,' Bosngun *kamba* 'to steal,' Siaute *kupi* 'to take.' [NNG 45]
- MIAO-YAO: Proto-Miao-Yao **ŋgam* 'to crush, squeeze' (< **kamgam*), Hainan Yao *gam* 'to crush or squeeze with the hand.' [PB 315]
- DAIC: Tai: Proto-Tai **hŋam* 'to lay hold of, grasp' (< **kamgam*), **kum* 'hold with the hand'; Kam-Sui: Sui *ńam* 'to hold,' Mak *ńam* 'to clench the fist, take hold of' (< **ŋgam* < **kamgam*); Li: Proto-Li **kəm* 'to press with the hand, squeeze,' Southern Li *kom* (*luoi*) 'to squeeze' (= press [down]); Ong-Be *kom* 'to press down.' [PB 315]
- AUSTRONESIAN: Proto-Austronesian **kem* 'enclose, cover, grasp,' **gemgem* 'hold, grasp in the fist, make a fist,' Rukai (*wa*)-*gəmgəm* 'to squeeze in the hand.' [AN 54, 74, 78; WW 103; PB 315-16]

6 KANO 'arm'

- KHOISAN: /Xam //kū 'arm,' /Nu-//en //kan 'branch'; Naron //k'ōā 'arm,' Nama //ōa(-b); !Kung //kāū 'branch,' ?≠hā ~ ≠hā 'arm.' [SAK 130, 186]
- NIGER-CONGO: Yingulum *kəní* 'arm,' Fali *kan*; Bantu: Proto-Bantu **kónò* '(fore)arm,' Nyalí (*i*)-*kón(-do)* 'hand,' Swahili (*m*)-*kono* 'arm, forearm, hand, front paw.' [BA 297, AT 11]
- NILO-SAHARAN: Kunama *kò'nà* 'hand,' u-kun-kula 'armpit, elbow' (= arm-hole), Ilit *kon* 'hand,' Berta *k'əŋ-k'oloŋ* ~ *k'wɔn-k'wɔloŋ* 'elbow,' Teso (*á*)-*kàni* 'hand,' Masai (*eŋ*)-*káíná* 'hand.' [CN 5, AT 79, NSB]
- ?AFRO-ASIATIC: Chadic: Proto-West Chadic **hA-ganA* 'arm, shoulder,' Angas *gwon* 'shoulder,' Bokkos *kôŋ* 'arm,' Sha *ǵaan*; Cushitic: Iraqw *kun(-day)* 'foot.' [AT 86, OS 683]

- ?INDO-EUROPEAN: Proto-Indo-European **kon-t-* ~ **kn-t-* '10,' Germanic: Proto-Germanic **handu(-z)* 'hand,' English hand.
- URALIC: Proto-Uralic (Rédei) **konə* ~ **konə-ala* 'armpit'; Yukaghir *kun(-el)* '10,' *xanba* 'hand'; Ugric: Hungarian *hón* ~ *hón(-alj)* 'armpit' (-*alj* 'that which is beneath'), Vogul *kan(-l)* 'armpit'; Finnic: Finnish *kain* (-*alo*), Votyak *kun(-ul)*, Zyrian *kon(-uvt)*, (-*uvt* 'that which is beneath'). [U 101, KR 178]
- DRAVIDIAN: Tulu *kaṇkuḷa* 'armpit' (= arm-hole), Kannada *kaṇkuṛ* ~ *gaṇkəlu* 'armpit,' Kota *ganjguly*. [D 1234, N 220]
- CAUCASIAN: Proto-Caucasian **gHwɪnĀ* 'arm, shoulder,' Proto-Lezghian **qün* 'shoulder,' Krytz *qunä*, Archi *qIun*. [C 156]
- YENISEIAN: Proto-Yeniseian **ken* 'shoulder.' [Y 28]
- SINO-TIBETAN: Ancient Chinese **kēn* 'shoulder'; Proto-Tibeto-Burman **kan* 'arm.' [Y 28, TB 438]
- NA-DENE: Proto-Eyak-Athabaskan **gān* 'arm,' Tanana *gan*, Tlatskanai *oka-ne*, Ingalik *gān*, Galice *gaane?* 'arm, branch,' Navajo *gaan* 'arm.' [SN, ND]
- INDO-PACIFIC: Tasmanian: Southeastern *gouna* ~ *guna* ~ *gouana* ~ *wana* 'arm, hand,' Parawen *konene* 'arm,' Jilim *kanan* 'left (arm),' Dumpu *kiñen* 'shoulder,' Gapun *akan* 'arm.' [T 83, FS 107, IP 820]
- ?NAHALI *khaṇḍa* 'shoulder,' *akhaṇḍi* 'finger.' [NA 59, 85; Kuiper believes *khaṇḍa* is probably a borrowing from Kurku.]
- ?AUSTROASIATIC: Vietnamese *cánh* ~ *cành* 'arm, branch, wing.'
- DAIC: Tai: Proto-Tai **xeen* 'arm,' Dìoi *kien* 'arm, sleeve,' Sek *keen*; Kam-Sui: Sui *chin*, Then *khyin* 'sleeve'; Ong-Be *kan* (*mo*) 'forearm,' *gen* (*mo*) 'upper arm.' [PB 379]
- AMERIND: Almosan-Keresiouan: Blackfoot *kin(-ists)* 'hand,' Kutenai *kin*, Kalispel *aṣən* 'arm,' Okanagan *-aqan*, Kwakwaka *-xaina* 'shoulder'; Penutian: Tunica *hkeni* 'hand,' Chitimacha *?okun* 'shoulder,' Sayula *konik* 'carry on the shoulder'; Central Amerind: Chichimec *kan'a* 'hand,' Otomi *xí'nyí* 'shoulder'; Chibchan-Paezan: Murire *kana* 'arm,' Bintucua *guna* 'arm, hand,' Guamaca *guna* 'arm,' Atanque *guna* 'hand,' Chimu *aken* 'arm'; Andean: Ona *haken* 'arm,' Tehuelche *aken* 'shoulder blade,' Simacu *kanúxua* 'shoulder,' Selknam *k'oijn*; Macro-Tucanoan: Särä *axkono* 'shoulder,' Uaiana *akono* 'shoulder, armpit,' Omoa *naxkono* 'shoulder'; Equatorial: Piro *kano* 'arm,' Parecis *-kano-*, Canamari *kano* 'shoulder,' Timote *-kiñem* 'hand,' Mococho *kiñien*, Tinigua *kwana*, Trumai *kanap*; Macro-Carib: Miranya *gano-aga* 'hand,' *gano-múhtee* 'armpit,' Coeruna *kunia* 'hand'; Macro-Panoan: Proto-Panoan **mī-kīnī* 'hand,' Lengua *kanyama* 'armpit'; Macro-Ge: Bororo *kana* 'upper arm,' Camican *guangäni* 'arm,' Botocudo *kinaon* 'shoulder,' Opaie (*či-*)*kā* 'shoulder.' [AK 6, CP 4, AM 16, AMN]

7 KATI 'bone'

?KHOISAN: /Xam /*kuttən* 'bone behind the ear,' //Ng-!e *ketn* 'bone.' [BD 87, 326]

NILO-SAHARAN: ?Berta *k'ara* 'bone,' East Sudanic: Nera *kətii(n)*, Kenuzi *kīd*, Kundugr *koidu*, Turkana *ako-*, Lotuko -*γōtyu*, Bari *kuyu*, Debri *kwedu*, Proto-Southeast Surmic **gigec*. [ES 21, NSB, SES]

AFRO-ASIATIC: Proto-Afro-Asiatic **qš* 'bone'; Ancient Egyptian *qš* 'bone'; Semitic: Arabic *qašš* ~ *gašš* 'sternum'; Cushitic: Proto-Cushitic **(m-)qS* 'bone,' Kambata *miqqa-ta* (*qq* < **qS*); Omotic: Jeba ?úús-u (< **k'us*), Badditu *miqi-tē*, Wolamo *maqa-tta*; Berber: Proto-Berber **gs(j)* 'bone,' Shilha *ixs*, Kabyle *igēs*, Tuareg *egēs*; Chadic: Proto-Chadic *k's(j)* 'bone,' Proto-West Chadic **ha-k'asi*, Hausa *k'āšī*, Musgu *kes'ke*, Gerka *γas*, Somrai *guseŋ*, Karbo *kāso* ~ *kāsi*. [CS 225, AA 11, N 219, OS 620, HF 12]

INDO-EUROPEAN: Proto-Indo-European **kos-t* 'bone'; Italic: Latin *costa* 'rib'; Slavic: Old Church Slavic *kostī* 'rib,' Serbo-Croatian *kōst*, Russian *kostī*. [IE 616, N 219]

?URALIC: Samoyed: Kamassian *kot* 'rib'; Finnic: Mordvin *kaskä* ~ *kaske* 'sacrum.' [N 219, SUL 492]

DRAVIDIAN: Kurux *xōc(-ol)* 'bone,' Malto *qoc(-lu)*. [D 1288]

CHUKCHI-KAMCHATKAN: Proto-Chukchi-Kamchatkan **(χ)əta-χəmV* 'bone.' [CK 1]

?ESKIMO-ALEUT: Proto-Eskimo-Aleut **qat'i* 'breast, ribs.' [EA]

CAUCASIAN: Proto-Caucasian **kōt's'a* 'kind of bone,' Proto-Dido **k'ot's'u* 'back of head,' Proto-Lezghian **k'at's'a* 'vertebra, shin,' Proto-Xinalug **kiz* 'thigh, hip.' [C 116]

BASQUE *gar-khotx(e)* 'nape' (*gara* = 'skull').

?BURUSHASKI *kanja* 'back of neck, neck joint.'

SINO-TIBETAN: Proto-Sino-Tibetan **kut* 'bone,' Old Chinese **kwət*. [SC 57]

NA-DENE: Haida (*s*)*kuts* ~ (*s*)*kuḡi* 'bone,' Eyak *q'ahš*. [ND]

INDO-PACIFIC: South New Guinea: Dabu *kut* 'bone,' Dibolug *kute*, Ngamai *kuta*, Kawam *kutra*, Parb *kwod*, Tunjuamu *guat*, Tokwasa *kuart*, Bangu *kuar*, Keladdar *kadrowa*. [SNG 9]

AMERIND: Almosan-Keresiouan: Bella Bella *k'ōd'o* 'bone, rib' (borrowing from Chinook?), Pawnee *kīsu* 'bone,' Wichita *kīs'a*, Acoma *ya-gət's'-əni* 'rib'; Penutian: Chinook *qot'o* 'bone,' Northern Sierra Miwok *kyčyč*, Plains Miwok *kəčəč*, Yuki *k'i?t*, Wappo *kúte* 'rib,' Chitimacha *kat'i* 'bone,' Uspantec *k'alk'aš* 'rib'; Chibchan-Paezan: Benticua *katia* ~ *kiasi* 'rib,' Matanawi *kisi*, Atacameño *kada* 'bone,' Itonama *čidiki*, Chimu *čotti*, Colorado *čide*; Andean: Selknam *q'ejt* 'breastbone,' Mapudungu *kadi* 'rib,' Genneken *uguets* 'bone,' Alakaluf *akšiasi* 'rib'; Macro-Tucanoan:

Kapishana *nya-kotsī*, Equatorial: Caranga *kaiču* 'bone'; Macro-Panoan: Cavineña (*epere-*)*'katse* 'rib,' Komlek *kadekotti* 'bone,' Caduveo *koda-uek'o* 'rib.' [AM 141, P 102, CP 23, AIW, AMN]

8 K'OLO 'hole'

KHOISAN: ≠Au.//e! *!kuru* 'quiver' (n.), *!Kung !koro* 'hole,' *!kuru* 'quiver' (n.), *!koro* 'hole, grave,' !O-!Kung *kolo* 'hollow'; G//abake *koro* 'hole in tree,' (čui) *kxolo* 'nostrils' (= nose hole); /Xam *!korro* 'to be hollow,' /huru 'hole,' /ūru 'anus,' /'Auni *!kuru* 'quiver' (n.). [SAK 371]

NILO-SAHARAN: Songhai *nkoro* 'buttocks'; Saharan: Kanuri *kuli* 'anus,' Teda *kulo*; Berta *k'oŋ-k'oloŋ* ~ *k'wɔn-k'wɔloŋ* 'elbow' (= arm-hole, cf. the Kunama form below); Koman: Buldiit *kul(ma)* 'buttocks'; Kunama *kura* 'anus,' *ukunkula* 'armpit, elbow' (< **kan-kul* 'arm-hole'); East Sudanic: Temein *kukuruk(it)* 'buttocks,' Nandi *kulkul* 'armpit,' So *ukolkol* 'armpit,' Gaam *kura-n* 'hollow (in ground).' [NS 4, CN 2, 5, ES 3, NSD 3, KER 432]

INDO-EUROPEAN: Proto-Indo-European **(s)kūlo* 'hiding place, back part'; Indic: Sanskrit *kūlam* 'rear of army'; Italic: Latin *cūlus* 'buttocks, anus,' *clūnis* 'buttock, hip'; Celtic: Old Irish *cūl* 'back, rear,' Welsh *cil* 'back,' *clùn* 'buttock'; Germanic: Proto-Germanic **hulo* 'hole,' Gothic *hulundi* 'cave,' English *hole*, Swedish *näs-håla* 'nostril.' [IE 951]

URALIC: Proto-Finno-Ugric **köl* 'hole'; Ugric: Vogul *kal* ~ *hal* 'crack,' Ostyak *köl* ~ *hul*, Hungarian *halok* 'incision'; Finnic: Finnish *kolo* 'hole, crack,' Saami *golo* 'fissure,' Zyrian *colas* 'crack,' Cheremis *kongəla* 'armpit,' Southern Estonian *kangel* 'shoulder.' [U 101, 106, N 220, EU]

KOREAN *kul* 'cave.' [EU]

JAPANESE-RYUKYUAN: Japanese *kur* 'hollow, scoop out.' [EU]

DRAVIDIAN: Tulu *kulligē* 'buttocks,' *kaŋkuḷa* 'armpit' (= arm-hole), Kolami *kūla* 'buttock,' *gaŋgūly* 'armpit,' Gondi *kula* 'buttock,' *kākri* 'armpit,' Kannada *kaŋkur* ~ *gaŋkəlu* 'armpit,' Telugu *kaŋgili* 'breast,' *tsaŋkili* ~ *tsakkili* 'armpit' (= arm-hole), Malayalam *akkuḷam* 'armpit, tickling,' Tamil *akkuḷ* 'armpit,' *akkuḷu* 'to tickle.' [D 1234, 2274, Supplement 30; N 220, NSD 3]

CAUCASIAN: Proto-Caucasian **kHwərV* 'hole, pit, ravine,' Proto-Nax **kōr* 'window,' Proto-Dido **kurV* 'ravine,' Proto-Lak **kuḷru* 'nest,' Proto-Dargi **kur* 'pit,' Proto-Lezghian **kur* 'pit, river,' Lezgi *k'ul-ux* 'backwards,' *k'ul-ux-k'il* 'hip, posterior, buttocks,' Kurin *qula* 'loins, buttocks.' [C 113, JR 58]

SINO-TIBETAN: Tibeto-Burman: Proto-Tibeto-Burman **kor* ~ **kwar* 'hole,' **kali* 'armpit, tickle,' Tibetan (West) *kor* 'hollow in the ground, pit,' Lushei *khua* ~ *khur* 'hole,' *kor* 'ravine,' Dimasa *ha-khor* 'cave' (= earth-hole), *sisi-khor* 'armpit' (= tickle-hole), Bodo *ha-khor* 'hole, valley,' Bur-

- mese *kǎlí* 'tickle,' *tshak-kǎli* ~ *lak-kǎli* 'armpit' (= arm-hole, cf. the Telugu form above), Lakher *kili* 'tickle,' *ba-kəli* 'armpit.' [ST 265, 349, 350]
- NA-DENE: Haida *kunts-qul* ~ *kwun-zool* 'nostril' (= nose-hole). [ND]
- DAIC: Khamti *kǎle* 'tickle,' *kap kǎle* 'armpit' *tsuŋ kǎri* 'tickle,' Shan *sop kǎlit* 'armpit'; Tai: Proto-Tai **xru* ~ **ru* 'hole,' **xru ʔdaŋ* 'nostril' (= hole nose). [PB 316, 410]
- AUSTRONESIAN: Proto-Austronesian **kili* 'shoulder,' **kilikili* 'armpit,' Tagalog *kili(ti)* 'tickling,' *kilikili* 'armpit,' Cham *kələk* 'tickle,' Fijian *kili* ~ *kiri* 'armpit,' Nggela *kilikili* 'tickle a tired pig to make it go.' [AN 80, 121, WW 187, PB 230, 410]

9 KUAN 'dog'

- KHOISAN: /Xam *!gwāi* 'hyena,' //Ng-!e */xāi*, /'Auni */kāin*, Kakia */xāi*, /Nu-//en */ūn*, !Kung */gwī*, !O-!Kung */gwī*. [SAK 380, DB 48]
- AFRO-ASIATIC: Proto-Afro-Asiatic **k(j)n* 'dog, wolf'; Omotic: Haruro *kānō*, Basketo *kanā*, Kullo *kana*, Gimira *kjan*, Kaffa *kunānō*, Mao *kano*; Chadic: Gamergu *kenē*, Jegu *kāni*. [CS 189, N 238, UOL 175]
- INDO-EUROPEAN: Proto-Indo-European **kwn* ~ **kun* 'dog'; Phrygian *kan*; Greek *kuōn*; Italic: Latin *can(-is)*; Armenian *šun* ~ *šan*; Indic: Sanskrit *çvan*; Iranian: Avestan *span*; Tocharian *ku* ~ *kon*; Germanic: Old English *hund*, English hound. [IE 632, UOL 175, N 238, EU]
- URALIC: Proto-Uralic (Illich-Svitych) **küjnä* 'wolf'; Finno-Ugric: Northern Saami *gâidne* 'wolf,' Udmurt *kýjon* 'wolf,' Komi *kóin* 'wolf'; Samoyed: Ostyak Samoyed *kana(-k)* 'dog' (probably a borrowing) [N 238, UOL 175, EU]
- TURKIC: Old Turkish *qančiq* 'bitch.' [EU]
- MONGOLIAN: Mongol *qani* 'a wild masterless dog.' [EU]
- TUNGUS: Proto-Tungus **xina* 'dog,' Manchu (*inda*)-*xun*, Udej *in'ai*, Oroch *inaxki*, Evenki *ina*, *inakin*, Lamut *ŋen*, Orok *ŋinda*. [N 238, EU]
- KOREAN *ka* 'dog' (< *kani*). [N 238, EU]
- GILYAK *qan* ~ *kan* 'dog.' [EU]
- ESKIMO-ALEUT: Sirenik *qanaɣa* 'wolf.' [EU]
- CAUCASIAN: Proto-Caucasian **χHwěje* 'dog,' Proto-Avar-Andi **χʷoʔi* 'dog,' Proto-Lezghian **χʷäja* 'dog.' [C 212]
- BASQUE *haz-koin* 'badger' (lit. 'bear-dog').
- YENISEIAN: Proto-Yeniseian **kūn* ~ **gūn* 'wolverine.' [Y]
- SINO-TIBETAN: Proto-Sino-Tibetan **qhʷij* 'dog,' Archaic Chinese **kʰiwən* 'dog'; Tibeto-Burman: Proto-Tibeto-Burman **kwiɣ*, Tibetan *khyi*, Kanauri *kui*, Thebor *khui*, Vaya *uri*, Chepang *kwi*, Karen *gwi*. [ST 159, UOL 175]
- ?INDO-PACIFIC: Pila *kawun* 'dog,' Saki *kawuŋ*, Wodani *kawino*. [FS 14]

?AUSTRONESIAN: Proto-Oceanic **nkaun* 'dog,' [WW 60]

AMERIND: Hokan: Achomawi *kuān* 'silver fox,' Tonkawa *ʔekuan* 'dog,' North Yana *kuwan-na* 'lynx,' Yurimangui *kwan* 'dog'; Central Amerind: Jemez *kiano*, Isleta *kuyanide*, Taos *kwiane-*, Tewa *tux^wana* 'fox, coyote,' Zacapoaxtla *it^wkiin-ti* 'dog,' Chatina *čuni*, Popoloca *kuniya*, Ixcatec *ʔuniña*, Chocho *ʔuña*; Chibchan-Paezan: Guamaca *kensi*; Equatorial: Esmeralda *kine*; Macro-Ge: Came *okong*, Serra do Chagu *hong-kon*. [A 86, CAN, UOL 176, AMN]

10 KU(N) 'who?'

KHOISAN: \neq Au.//eĩ *kama* 'when, if,' *xa* (interrogative particle), !Kung *ka* 'when,' !kũ(-de) 'who'; G//abake /*kam* 'when,' Naron *kama* 'when, if,' Nama *hamo* 'when,'; /Xam *lku(dexa)* 'who,' *xa* (interrogative particle). [SAK 384, 388, 757, 764, UOL 70]

NIGER-CONGO: Pam *kōgé* 'which,' Dama *káʔi* 'which,' Jukun *ákē* 'what,' Proto-Bantu **kí~ká* 'which,' Swahili *ga-ni* 'what, why, what kind.' [BA]

NILO-SAHARAN: Fur *kii* 'who,' *ka* 'what,' Daza *ka* 'which,' Masai *ka* 'which,' Didinga *ɲani* 'who' (< **kani* ?), Liguri *keneen* 'who,' Nyala *k-rem* 'how many,' Shatt *k-reñ* 'how many,' Shabo *kukne* 'who.' [NS 149, CN 126, HF 12]

AFRO-ASIATIC: Proto-Afro-Asiatic **k(w) ~ *q(w)* 'who'; Semitic: Proto-Semitic **kV* 'how,' Arabic *ka*, Geez *kama*, Aramaic *kə*, Akkadian *kima ~ ki* 'how,' South Arabian *ko* 'how, why,' Mehri *ūkō* 'why'; ?Berber: Tuareg *akken* 'how,' Gdames (*mə-*)*k*; Cushitic: Proto-Cushitic **kw* 'who,' Somali *kú-ma* 'who (masc.),' Oromo *ka-mi* 'who,' *aka* 'how'; Omotic: Kaffa *kō-nē* 'who,' Mao *konne*, Kullo *hone*, Wolamo *ōne*, Beja *kāk(u)* 'how'; Chadic: Proto-Chadic **k'(w)* 'who,' Hausa *k'ā*, Bura *ga* 'what,' Logone *ɣwani*, Somrai *kāna* 'who,' Mubi *gin*. [N 232, UOL 70]

INDO-EUROPEAN: Proto-Indo-European **k^wo ~ *k^wi* 'who,' **-k^we* (coordinating conjunction); Indic: Sanskrit *kas* 'who'; Iranian: Avestan *kō*; Armenian *ó* (< **k^wo*); Anatolian: Hittite *kuiš* 'who,' *kuit* 'what,' Luwian *kui* 'who,' Lydian *qis* 'who,' *qid* 'what'; Albanian *kë* 'whose'; Italic: Latin *quis* 'who,' *quis-que* 'whoever,' *quod* 'what,' *quam* 'how, as,' *quom* 'when,' (*arma virum*)-*que* '(arms) and (the man)'; Celtic: Old Irish *cia* 'who,' *cid* 'what'; Germanic: Gothic *hwas* 'who,' English *who, what, when, where, why, how*; Baltic: Old Prussian *kas* 'who,' *ka* 'what'; Slavic: Old Church Slavonic *kbto* 'who'; Tocharian: Tocharian A *kus* 'who, what.' [IE 644, N 232, EU, UOL 70]

URALIC: Proto-Uralic (Rédei) **ke ~ *ki* 'who,' (Rédei) **ku ~ *ko* 'who, which, ?what'; Yukaghir *kin* 'who,' *hon* 'where,' *hadi* 'which,' *hodier* 'why'; Proto-Uralic (Illich-Svitych) **ke ~ *ko ~ *ku* 'who'; Samoyed:

Yurak *hu* 'who,' *huna* 'where,' Tavgy *kua* 'which,' *kuninu* 'where,' *kune* 'when,' Selkup *kutte* 'who,' *kun* 'where,' Kamassian *kaamōn* 'when'; Ugric: Vogul *kon* 'who,' *qun* 'when,' Ostyak *hōjə* 'who,' *hōtə* 'what,' *hun* 'when,' Hungarian *ki* 'who'; Finnic: Finnish *ken* ~ *kene* ~ *ke* ~ *ku* ~ *kuka* 'who,' *kussa* 'where,' *koska* 'when,' Saami *gi* ~ *gæ* ~ *gutti* 'who,' *goktē* 'how,' Mordvin *ki* 'who,' Cheremis *ke* ~ *kō* ~ *kū* ~ *kudō*, Votyak *kin* 'who,' *kin-ke* 'someone,' *ku* 'when,' Zyrian *kin* 'who,' *kod* 'which,' *ko* 'when.' [U 44, 46, N 223, 232, EU, KR 140, 191]

TURKIC: Proto-Turkic **k'Em* 'who,' **ka* ~ **qa* (interrogative base), Chuvash *kam* 'who,' Old Turkish *kām* 'who,' *qa-nū* 'which,' *qa-na* 'where,' Old Uighur *kim* 'who,' *qaju* 'which,' *qajda* 'where,' Tatar *kem* 'who,' Karagas *kum* ~ *kym*, Jakut *kim*, Old Oguz *qanda* 'where.' [N 223, 232, EU, UOL 70]

MONGOLIAN: Proto-Mongolian **kē-n* 'who,' **ka* 'where, whither,' Written Mongolian *ken* 'who,' *qa-mi-ga* 'where,' Khalkha *xej* 'who,' *xāna* (< **ka-ga-na*) 'where,' Kalmyk *ken* 'who,' *xā* (< **ka-ga*) 'where, whither,' Moghol *ken* 'who.' [N 223, 232, EU]

TUNGUS: Proto-Tungus **xa* 'what, how, how much,' Nanai *xaj* 'what,' *xadu* 'how much,' *xoni* 'how,' Manchu *aj* 'what,' *udu* 'how much,' Udihe *ī* 'what,' *adi* 'how much,' *ono* 'how,' Even *ī-rāk* 'how,' *adi* 'how much,' *ōn(i)* 'how.' [N 232, EU]

KOREAN *ka* (interrogative particle). [N 232, EU]

JAPANESE-RYUKYUAN: Japanese *ka* (interrogative particle, indefinitizer), *ka* . . . *ka* (alternating conjunction), Ryukyuan *ča* 'what.' [EU]

AINU *ka* (interrogative particle, indefinitizer), *ka* . . . *ka* (coordinating conjunction). [EU]

GILYAK *ka* (interrogative particle), *ko* . . . *ko* (coordinating conjunction). [EU]

CHUKCHI-KAMCHATKAN: Kamchadal *k'e* 'who' (genitive *k'en*), Chukchi *mik* ~ *mek* 'who,' *req* ~ *raq* 'what,' Koryak *qej* . . . *qej* 'either . . . or,' *kur* 'to be who?, to be what?,' Kerek *jaq* 'who, what.' [EU]

ESKIMO-ALEUT: Proto-Eskimo-Aleut **ken* 'who,' **qa-* (interrogative pronoun), Aleut *ki-n* 'who,' *qata* 'where, whither, what,' *qanangun* 'where,' *qanayam* 'when,' *qanagan* 'whence,' Eskimo *ki-na* 'who,' Greenlandic *qanga* 'when,' *qanuq* 'how,' Siberian Yuit *qafsina* 'how many,' Alaskan Yuit *-ka* (question particle). [EU, EA 118, 121]

CAUCASIAN: Proto-Caucasian **k^wi* 'who, which,' Kurin *ku-* 'what,' Archi *k^wi-* 'who,' Avar *k^hi-n* 'how.' [UOL 70, SC 149]

BURUSHASKI *kē* 'if, when,' *kē* 'and,' *kē* . . . *kē* 'both . . . and,' (*men* . . .) *kē* '(who)ever.' [B 231, 265]

SINO-TIBETAN: Old Chinese **kjei* 'how much,' Hruso *k^hi-nia* 'how many,' *k^hi-mia* 'how far.' [SC 149]

NA-DENE: Haida *gyis-to* ~ *kiš-to* 'who,' *gōsu* ~ *guu(s)* 'what,' *gyinu* 'where,' *giisant* 'when'; Tlingit *kusu* ~ *gūsú* ~ *gū* 'where,' *kūnsa* 'how much.' [ND]

?AUSTRALIAN: Maung *gunuga* ~ *gigi* 'what,' Tiwi *kuwa* 'who,' *kamu* 'what.' [RD 373, 376]

NAHALI (*nani*) *ka* 'anyone' (*nani* 'who'), (*nan*) *ka* 'anything' (*nan* 'what'). [NA 92]

AUSTROASIATIC: Munda *o-ko-e* 'who,' *o-ka* 'what,' *če-le* 'which'; Mon-Khmer: Vietnamese *gi* 'what,' Nicobarese *či* 'who,' *či-n* 'who, what,' *kahā* 'what,' *čan* ~ *ču* 'where.' [UOL 70]

AUSTRONESIAN: Proto-Austronesian **ku'a[ʔ]* 'how.' [AN]

AMERIND: Almosan-Keresiouan: Kutenai *ka* 'where,' Wiyot *gu* 'when, where,' Yurok *kus* 'when, where,' Passamaquoddy *kek^w* 'what,' Chemakum *āč'is* 'what,' Quileute *ak'is* 'what,' *qo-* 'where,' Nootka *ʔaqi-* 'what,' Bella Bella *akoiqkan* 'who,' Pentlatch *kwənča* 'where,' *kwəs* 'when,' Upper Chehalis *ka-n* 'do what?,' Keres *hēko* 'whither,' Quapaw *ka* 'what,' Ofo *kaka* 'what,' Wichita *ʔēkiyaʔ* 'who,' Caddo *kwit* 'where,' Cherokee *gago* 'who,' Onondaga *kanin* 'where,' Seneca *kwanu* 'who,' Mohawk *ka* 'where'; Penutian: Tsimshian *gu* 'who,' Alsea *qau*, Kalapuya *ūk*, Coos *qanč* 'where,' Siuslaw *qani*, Klamath *kani* 'who,' *ka* 'which,' Bodega Miwok *ʔeke* 'what,' *ʔeketto* 'where,' Zuni *kāk'i-pi* 'when,' Tunica *kaku* 'who,' *kanahku* 'what,' *kaʔaš* 'when,' Natchez *kanne* 'someone,' *gōš* 'what,' Huave *xan* 'who,' *key* 'what,' Quiche *xan* 'when'; Hoka: Achomawi *kī* 'who,' Washo *kudiŋa* 'who,' *kuŋate* 'what,' *kuŋa* 'where,' East Pomo *kia* 'who,' *k'owa* 'what,' Chumash *kune* 'who,' *kenu* 'why,' Esselen *kini* 'who,' *ke* 'where,' Walapai *ka* 'who,' Seri *kiʔ*, Coahuilteco *ka* 'what,' Chontal *kanaʔ* 'when,' Tlapanec *gwana*, Jicaque *kat* 'where,' Yurimangui *kana* 'what,' *kuna* 'where'; Central Amerind: Proto-Aztec **kaan* 'where,' **keem* 'how,' **kee-ski* 'how much, how many,' Nahuatl *aʔkon* 'who,' Zacapoaxtla *akoni*, Yaqui *hakuni* 'where,' Isthmus Zapotec *gunaʔ*, Mazatec *kʔia* 'when'; Chibchan-Paezan: Cuna *kana* 'when,' Miskito *ajkia*, Paya *agini*, Terraba *kene* 'where,' Tirub *koñe*, Totoro *kin* 'who,' Paez *kim* 'who,' *kīh* 'what,' Catio *kai* 'who,' Mogueux *kina* 'who, what,' Tucura *karea* 'why'; Andean: Yahgan *kunna* 'who,' *kanin(a)* 'to whom,' *kana* 'where,' Tehuelche *keme* 'who,' *ken* 'which,' *kenas* 'when,' *kienai* 'where,' Araucanian *kam* 'how,' Aymara *kuna* 'what,' *kamisa* 'how,' Iquito *kan^ΛΛka* 'who,' Aymara *kuna* 'what,' *kauki* 'where'; Macro-Tucanoan: Ticuna *karo* 'where,' *kejaito* 'when'; Equatorial: Ayore *gōsi* 'who,' Tuyoneri *kate* 'what,' Yaruro *kanemo* 'when,' Uru *kanču*, Wapishana *kanum* 'what,' Puquina *kin*; Macro-Carib: Yabarana *ekkwarijawa* 'when,' *akətto* 'where,' Witoto *akō* 'what,' Miranya *kia* 'where,' Faai *kiati*, Andoke *koide* 'who'; Macro-Panoan: Lule *kine-kinema*, Macca *kat^sik* 'who,' *kona* 'when' (rel.), Taruma *gaga* 'what,' Tacana *ket-sunu* 'when,' *kepia* 'where.' [AM: G102; UOL 70, AMN]

11 KUNA 'woman'

AFRO-ASIATIC: Proto-Afro-Asiatic **k(w)n* ~ **knw* 'wife, woman'; Omotic: Chara *gänēts* 'woman,' Kaffa *geñe* 'lady,' Mocha *gäñe* 'lady, woman,' Shinasha *geña* 'lady'; Cushitic: Proto-Cushitic **H-kwn* 'wife,' Bilin 'əx^wina (pl. 'ək^win) 'wife,' Xamta *eq^wen* 'wife,' Dembia *kiünā* 'wife,' Avija *xuonā* 'wife,' Oromo *qena* 'lady'; Semitic: Akkadian *kinītu* ~ *qinītu* 'one of the wives in a harem'; Berber: Proto-Berber **t-knw* 'wife,' Tuareg *tēkne* 'wife,' Kabyle *ṭakna* 'one of the wives in polygamy'; Chadic: Margi *ṅkwà* 'girl' (< **m-kwà*), Igala *ginum* 'woman,' Makari *gerim* 'woman,' Logone *gənəm* 'woman.' [N 178, UOL 179]

INDO-EUROPEAN: Proto-Indo-European **g^wen* ~ **g^wenā* 'wife, woman'; Anatolian: Lydian *kāna* 'woman, wife,' Luwian *wanā*; Indic: Sanskrit *gnā* 'goddess'; Iranian: Avestan *gənā* 'wife'; Armenian *kin* (pl. *kanai-k'*); Greek: Mycenaean *ku-na-ja*; Albanian *grue* ~ *grua*; Celtic: Old Irish *ben*; Germanic: Gothic *qino*, Old High German *quena*, English *queen*; Baltic: Old Prussian *genno* 'wife'; Slavic: Old Church Slavic *žena*; Tocharian: Tocharian B *šana*. [IE 473, N 178, EU, LC 922, UOL 179]

TURKIC: Proto-Turkic **küni* 'one of the wives in polygamy,' Old Turkic *küni* 'wife,' Kirghiz *künü*, Azerbaijani *günü*. [N 178]

ESKIMO-ALEUT: Proto-Eskimo-Aleut **ʔak(i)na-* 'woman,' Eskimo: Alaskan *aganak*, Greenlandic *arnaq*, Yuit *arnaq* 'female person, woman.' [EU]

CAUCASIAN: Proto-Caucasian **q(w)änV* 'woman,' Proto-Dagestan **qonV(ṽV)*. [EC, NSC 59]

?INDO-PACIFIC: Andaman Islands: Bea *chána* 'woman,' *chana-da* 'mother'; Tasmanian: Southeast *quani* 'wife, woman'; Mugil *kanen* 'mother.' [T 471, UOL 180]

AUSTRALIAN: Warrgamay *gajin* 'female of human or animal species,' Gamilaraay *gunijarr* 'mother,' Ngaanyatjara *ngunytju*, Jalnguy *guyngun* 'spirit of a dead woman.' [RD 119, UOL 180]

?AUSTROASIATIC: Mon-Khmer: Nancowry *kān* ~ *kāne* 'woman.' [UOL 179]

AMERIND: Almosan-Keresiouan: Shawnee *kwan-iswa* 'girl,' Nootka *ganəmo*, Bella Bella *ganəm* 'woman, wife,' Lkungen *kaŋi* 'girl,' Spokane *en-okhono* 'wife,' Siletz *qenaʔs* 'grandmother,' Santa Ana *k'uwi* 'woman, wife,' Dakota *hun* 'mother,' Yuchi *wa-hane* 'old woman'; Penutian: Tsimshian *hanāg* 'woman,' Cayuse *kwun-asa* 'girl,' Yawelmani *gaīna* 'woman,' Konkow *kónoj* 'woman, wife,' Nisenan *kono* 'girl,' San Juan Bautista *atsia-xnis*, Lake Miwok *?unu* 'mother,' Zuni *k'anak^wayina* 'woman,' Yuki *aŋ-k'an* 'mother'; Hokan: Chumash *kunup* 'girl,' Diegueño *kux-k^wan^j* 'mother,' *xe-k^wan^j* 'daughter,' Seri *kuām* 'female,' *koŋkái* 'wife,' Tonkawa *k^wan* 'woman,' Karankawa *kanin* 'mother,' Tequistlatec (*ʔ-*)*agaʔno* 'woman,

female'; Central Amerind: Proto-Tiwa **k^wiem* 'maiden,' Papago *hóoñigí* 'wife,' Isthmus Zapotec *gunáa* 'woman'; Chibchan-Paezan: Boncota *güina* 'female,' Ulua *guana*, Pedraza *konui-xa* 'daughter,' Choco *huena* 'woman,' Paez *kuenas* 'young woman'; Andean: Simacu *kaxkanu* 'daughter-in-law,' Yahgan *čou-kani-kipa* 'young woman,' Kulli *kañi* 'sister,' Cholon *akiñiu*, Alakaluf *ekin-eč* 'woman,' Tsoneka *na-kuna*; Macro-Tucanoan: Nadobo *kuñan*, Särä *kana* 'mother'; Equatorial: Yurucare *igün* 'girl,' *ti-gün* 'daughter,' Cuica *kuneu-ksoy* 'girl,' *kunakunam* 'woman,' Proto-Tupi **kuyā*, Guarani *kuña* 'female,' *kuña-tai* 'girl,' Guarayo *ekuna* 'woman,' Canoeiro *kuña-tain* 'small girl,' Kamayura *kunja* 'woman,' Guahibo *kvantua* 'first wife,' Amuesha *kuyan-iša* 'woman'; Macro-Carib: Palmella *ena-kone* 'mother,' Accawai *kana-muna* 'girl,' Muinane *kini-ño*, Miranya *guaniu* 'mother'; Macro-Panoan: Chama *eg^wan-asi* 'woman,' Lengua *iñ-kyin* 'mother,' Sanapana *küli-guana-man* 'old woman,' ?Chacobo *huini* 'female,' ?Cavineña *ekwa?a* 'mother'; Macro-Ge: Suyu *kuña* 'woman,' Cherente *pi-kon*, Capaxo *konjan*, Caraja *hanökö*. [AM 272, P 283, H 164, LC 922, AMN]

12 MAKO 'child'

?NIGER-CONGO: Bantu: Ngoala *maŋku* 'child,' Yaunde *moŋgo*, Pande *manga*, Mbudikum-Bamum *muŋke*. [HJ II: 271]

INDO-EUROPEAN: Proto-Indo-European **maghos* 'young,' **maghu* 'child, boy'; Iranian: Avestan *maŋava* 'unmarried'; Celtic: Old Irish *macc* 'son'; Germanic: Gothic *magus* 'boy,' Old English *magu* 'child, son, man,' Swedish *måg* 'son-in-law'; Baltic: Latvian *mač* (gen. *maģa*) 'small.' [IE 696, AB 371]

DRAVIDIAN: Tamil *maka* 'child, young of an animal, son or daughter,' Malayalam *makan* 'son,' *makkaḷ* 'children (esp. sons),' Kota *mog* 'child,' Toda *mox* 'child, son, male, daughter,' Kannada *maga* 'son, male person,' *makan* 'son,' *magu* 'infant, child of either sex,' Kodagu *makka* 'children,' Tulu *mage* 'son,' *magaḷu* 'daughter,' Telugu *maga* 'male,' Konda *moga koṛo* 'boy child,' *gālu* 'daughter' (< **mgālu*), Pengo *gār* 'daughter,' Kuwi *maka* (vocative used to daughters and sisters in affection), Malto *maqe* 'boy,' *maqi* 'girl,' *maqo* 'small, little, young,' *maqu* 'young of an animal.' [D 4616, AB 371]

CAUCASIAN: Proto-Caucasian **mik^wV* 'small, young one,' Proto-Avar-Andi **mokⁱ* ~ **mikⁱ* 'small, child,' Proto-Dido **mikⁱV* 'small, little,' Proto-Lezghian **mik^wV* 'young.' [C 151]

SINO-TIBETAN: Tibeto-Burman: Proto-Tibeto-Burman **māk* 'son-in-law,' Miri *mak(-bo)*, Burmese (*sa-*)*mak*, Lushei *māk(-pa)*. [ST 324]

INDO-PACIFIC: Southwest New Guinea: Jaqai *mak* 'child,' Aghu *amoko*, Madinava *imega(-kaivagu)*. [SWNG 12]

AMERIND: Almosan-Keresiouan: Natick *mukketchouks* 'boy,' Beothuk *maga-raguis* 'son,' Santa Ana *-ma'kə* 'my daughter,' Acoma *magə* 'girl,' Hidatsa *makadištania*; Penutian: Cayuse *m'oks* 'baby,' Modoc *mukak*, Gashowu *mokheta* 'girl,' Santa Cruz *mux-aš*, Zuni *maki* 'young woman,' Yuki *muḥ* 'young,' Mixe *mahntk* 'son,' ?*miš* 'girl, boy'; Hokan: Achomawi *mik-tsan* 'child' (-*tsan* = dim.), Yana ?*imx* 'young,' Washo *mèhu* 'boy,' Chumash (Santa Barbara) *mičamo* 'boy,' *amičānek* 'girl,' Chumash (Santa Ynez) *makčai* 'daughter,' *mak-isi-huanok* 'girl,' Cocopa *xmik* 'boy,' Walapai *mik*, Maricopa *maxay*, Yuman *maša-xay* 'girl,' Tequistlatec (*ʔa-*)*mihkano* 'boy'; Central Amerind: Tewa *mogè* 'young,' ?Otomi *metši* 'boy'; Chibchan-Paezan: Cuna *mači(-gua)*, Ulua *muix-bine* 'child,' Chimila *muka* 'son-in-law,' *muka-yunkvir* 'daughter,' Shiriana *moko* 'girl,' Nonama *mukua* 'daughter,' *mučaira* 'son'; Andean: Yahgan *maku* 'son,' *makou-esa* 'daughter-in-law,' Yamana *māku-n* 'son'; Macro-Tucanoan: Yeba *mākēē* 'child,' *yimaki* 'son,' Waikina *maxkē* 'child,' *mehino* 'boy,' Dyurumawa (*ma-*)*maki* '(small) child,' Coto *ma-make* 'boy,' Tucano *muktuia* 'boy, girl,' *vimago* 'girl,' *dyemaxkī* 'child,' Curetu *si-magö* 'daughter,' *si-mugi* 'son,' Waiana *yemakə* 'daughter,' Ömöa *yemaxke* 'son,' Ticuna *mākan* 'child,' Desana *mague* 'son,' Auake *makuamē*, Waikina *make*; Equatorial: Mehinacu *yamakui* 'boy,' Paumari *makinaua* 'boy, young,' -*makhini* 'grandson,' Marawan *makibmani* 'boy,' Uru *mači* 'daughter,' Caranga *mač* 'son,' Oyampi *kunyā-muku-* 'girl,' Maue *makubdia*, Tambe *kusamuku* 'young woman'; Macro-Carib: Yabarana *mūku* 'boy,' Galibi *magon* 'young of animals,' Cumanagote *miku* 'child,' Pavishana *mu'gi* 'daughter,' Taulipang *muku* 'son,' Accawai *mogo*; Macro-Panoan: Tiatinagua *mahi*; Macro-Ge: Apinage *māaukrīde* 'girl,' Ramkokamekran *mäggepru*, Coroado *meke-šambe* 'son.' [AM 62, AMN]

13 MALIQ'A 'to suck(le), nurse; breast'

- AFRO-ASIATIC: Proto-Afro-Asiatic: **mlg* 'breast, udder, suck,' Arabic *mlġ* 'to suck the breast,' Old Egyptian *mnd* (< **mlg*) 'woman's breast, udder'; Cushitic: Somali *maal-* 'to milk,' Rendille *maṣal-*. [N 291, LN 291]
- INDO-EUROPEAN: Proto-Indo-European **melǵ-* 'to milk'; Greek *ἀμέλγω*; Italic: Latin *mulg-ēre*; Celtic: Irish *bligim* 'to milk,' *mlícht* 'milk'; Germanic: Gothic *miluks* 'milk,' Old Norse *mjólka* 'to milk,' English 'to milk, milk'; Baltic: Lithuanian *milžti* 'to milk'; Slavic: Old Church Slavonic *mlěsti*; Albanian *mjellë*; Tocharian: Tocharian A *mālk-lune* 'milking,' *malke* 'milk,' Tocharian B *malk-wer* 'milk.' [IE 722]
- URALIC: Proto-Uralic (Illich-Svitych) **mäl̥ye* 'breast,' Proto-Finno-Ugric (Rédei) **mäl̥ke*; Saami *mielgâ* 'breast, chest,' Mordvin *mäl̥hkä* 'breast,' Vogul *mägi* (with metathesis), Hungarian *mell*, Yukaghir *meṭu-t*. [N 291, R 267]

- DRAVIDIAN: Kurux *melkhā* 'throat, neck' and Malto *melqe* 'throat,' Tamil *melku* 'to chew, masticate,' Malayalam *melluka* 'to chew, champ,' Toda *meḷk* 'mouthful,' Kannada *mellu* 'to chew, masticate, eat with a muttering sound,' *melaku* 'bringing up again for rumination,' Telugu *mekku* 'to eat, gobble,' Gadba *mekkap-* 'to eat like a glutton.' [D 5077, 5080]
- ESKIMO-ALEUT: Aleut *umlix* 'chest,' Kuskokwim *milugā* 'sucks it out,' *mulik* 'nipple,' *milūgarā* 'licks (or sucks) it; kisses it (a child).' [EU]
- CAUCASIAN: Proto-Caucasian **mVq'VfV* 'throat, larynx,' Proto-Avar-Andi **maq'ala* 'throat,' Proto-Dido **muq'*, Proto-Dargi **muq'luq'* 'chute, gutter.' [C 142]
- AMERIND: Almosan: Lower Fraser *məḷqʷ* 'throat,' Nootka *ḡukʷ* 'swallow,' Kwakwaka *ḡlχʷ-ṭid* 'chew food for the baby,' *ḡlqʷa* 'moisten the fingers with the tongue,' Heiltsuk *ḡelqva* 'chew food for baby,' *ḡelχv-baút* 'lick the end of something,' Yurok *mik'olum* 'swallow,' Kutenai *uʔmqoʔ*; Penutian: Chinook *-mōku-* 'throat,' *mlqʷ-tan* 'cheek,' Wishram *ō-mēqʷ* 'lick'; Oregon: Takelma *mülk* 'swallow,' Tfalatik *milq*, Kalapuya *malq-mat* 'lick'; Yokuts *mōk'i* 'swallow,' *mik'-is* 'throat,' Mixe *amuʔul* 'suck,' Zoque *muʔk*; Hokan: Yuma *mal'aqé* 'neck,' Walapai *malqi* 'throat, neck,' Havasupai *milqé* 'throat,' Yavapai *melqi* 'neck,' Mohave *mal'aqé* 'throat,' Akwa'ala *milqi* 'neck,' Paipai *milqi*; Chibchan: Cuna *murki-makka* 'swallow,' *murgi murgi sae* 'swallow food'; Andean: Quechua (Cochabamba) *malq'a* 'throat,' Quechua (Huaraz) *mallaqa* 'be hungry'; Aymara *malq'a* 'swallow, throat' (a borrowing from Quechua?) Equatorial: Guamo *mirko* 'drink.' [P 239, AMN; this etymology is explored in greater detail in Chapter 11.]

14 MANA 'to stay (in a place)'

- ?NILO-SAHARAN: Tatoga *min* 'to stand,' Shabo *maṇ-ka* 'to sit.' [NSB, HF 12]
- AFRO-ASIATIC: Proto-Afro-Asiatic **mn* 'to remain, be firm'; Ancient Egyptian *mn* 'to remain,' Coptic *mun*; Semitic: Proto-Semitic **mn* 'to be firm, safe,' Arabic *'munu* 'to be loyal to someone,' *'manu* 'to be safe,' Geez *'mn* 'to be faithful,' Syriac *'amīn* 'firm,' Classical Hebrew *(n-)'mn* 'to be permanent, safe'; Omotic: Gofa *min* 'to be firm, strong'; Cushitic: Oromo *manā* 'house, home,' Somali *mīn*; Chadic: Musgu *mine* 'to be.' [CS 38, N 287, UOL 192]
- ?KARTVELIAN: Georgian *mena* 'dwelling' (possibly a borrowing from Iranian languages). [N 287]
- INDO-EUROPEAN: Proto-Indo-European **men* 'to remain'; Indic: Sanskrit *man* 'to linger, not budge from a place'; Iranian: Old Persian *man* 'to remain, wait for'; Armenian *mnam* 'I remain, wait for'; Italic: Latin *man(-ere)* 'to remain'; Tocharian: Tocharian A *mñe* 'waiting,' *māsk* (< **men-sk*) 'to be.' [IE 729, N 287, UOL 192]

DRAVIDIAN: Proto-Dravidian **man* 'to remain in a place,' Brahui *manning* 'to become, be,' Malto *mene*, Kurux *mannā*, Kuwi *man* 'to be, remain, stay,' Konda *man* 'to be, stay, dwell,' Parji *men* 'to be, stay,' Telugu *manu* 'to live, exist,' *mannu* 'to last, be durable,' Malayalam *mannuka* 'to stand fast,' Tamil *maṇṇu* 'to be permanent, remain long, stay.' [D 4778, N 287]

TUNGUS: Evenki *mānā* 'to live settled, stay in camp for a long time in one place,' Negidal *mānāḡā* 'to remain.' [N 287]

CAUCASIAN: Proto-Caucasian **ʔi-ma(n)*- 'to stay, be,' Hurrian *mann-* 'to be.' [NSC 111]

BASQUE *min* 'to place, set up, settle.'

BURUSHASKI *man(-as)* 'to be, become.' [B 257]

INDO-PACIFIC: South New Guinea: Makleu *man* 'to sit,' Jab *mön*; Central New Guinea: Siane *min* 'to stay, sit,' Gende *mina* 'stay,' Moge *mana(-munt)* 'to sit,' Kuno *amen(-nyint)*; Northeast New Guinea: Langtub *min* 'to stay'; Unclassified New Guinea: Waruna *mana* 'to dwell,' Gogodala *mana* 'to sit, stay.' [IP 65]

AMERIND: Almosan-Keresiouan: Nootka *ma-* 'dwell'; Penutian: Tsimshian *mān* 'remain,' Kalapuya *māni-* 'wait,' Maidu *ma* 'be,' Zuni *ʔima* 'sit'; Hokan: Subtiaba *-ama*; Chibchan-Paezan: Cacaoopera *ima* 'wait,' Puruha *ma* 'be,' Timicua *-ma* 'inside'; Andean: Cholona *-man* 'in,' Aymara *mankxa* 'inside,' Araucanian *minu*, Quechua *ma-* 'be,' Yahgan *mani* 'be,' jumanana 'live,' *mōni* 'remain,' *kamani* 'stand'; Equatorial: Dzubucua *mañe* 'remain,' Otomi *yamania* 'live,' Paumari *gamanani* 'stand,' Coche *xamnan* 'be'; Macro-Carib: Yameo *mune* 'sit down,' Ocaina *mūnʔxo* 'remain,' Apiaca *umano* 'wait'; Macro-Panoan: Cashinawa *mana*, Shipibo *manei* 'remain,' Chacobo *man-* 'wait,' Panobo *manai*, Lule *-ma* 'in'; Macro-Ge: Botocudo *mēn* 'remain,' Crenguez *moinj* 'to sit,' Capoxo *moinjam*, Bororo *aṃu ~ aṃi* 'to rest,' Cayapo *kaimaniun* 'stand,' *kaman* 'inside,' Tibagi *ema* 'dwell,' [AM: G46, A 59, MG 99, AMN]

15 MANO 'man'

?NIGER-CONGO: Bantu: Mbudikum-Bamum *-mani* 'man,' Rwanda *mana*, Nyanja *-muna*, Ci-ambo *-mna*.

NILO-SAHARAN: East Sudanic: Me'en *meʔen-* 'person,' Maban *meṇṇu*, Tama *ma*, Ik *am*, Didinga *mat^s* 'male,' Merarit *mo*, Dinka *mot^s*, Maban: Mabang *ma-su* 'person.' [ES70, NSB]

AFRO-ASIATIC: Proto-Afro-Asiatic **mn* 'male, man, person'; Ancient Egyptian *mnw* 'Min, a phallic deity,' Old Egyptian *mnyw* 'herdsman'; Omotic: Wolamo *minō* 'warrior,' Janjero *monō* 'people'; Cushitic: Proto-Cushitic **mn* 'man,' Burji *méen-a* 'people,' Somali *mun* 'male,' Hadiyya *manna* 'people,' *man-čo* 'person,' Tembaro *mana*, Iraqw *ameni* 'woman'; Berber:

Zenaga *uman* 'kin,' Ghadames *iman* 'person,' Zwawa *iman*, Qabyle *iman*; Chadic: Proto-Chadic **mn(j)* 'man,' Proto-West Chadic **mani* 'man, husband,' Karekare *men* 'people,' Kanakuru *minja*, Bata *māno* 'man,' Musgu *muni* 'woman,' Logone *mēni* 'man, person,' Dari *mānji* 'person.' [AA 78, N 292, OS 801, LN 292]

INDO-EUROPEAN: Proto-Indo-European **manu(-s)* ~ **monu(-s)* 'man'; Indic: Sanskrit *mānu* ~ *mānuṣ* 'man, person'; Iranian: Avestan **manus* 'man'; Germanic: Gothic *manna*, Old High German *man*, English *man* (pl. *men*), woman (< wife + man); Slavic: Old Church Slavic *mъžī* (< **mon-g-jo*), Russian *muž* 'husband.' [IE 700, N 292]

URALIC: Proto-Uralic (Illich-Svitych) **māńce* 'man, person'; Ugric: Vogul *meńci* ~ *mańsi* (self-name), Ostyak *mańt'* ~ *mońt'* ~ *məs* ~ *maś* (self-name of one Ostyak clan), Hungarian *magyar* (self-name); Finnic: Finnish *mies*, Estonian *mees*. [U 114, N 292]

DRAVIDIAN: Kolami *mās* 'man,' *māc* 'husband,' *māca* 'wife,' Naikri *mās* 'man,' *māsal* 'woman,' Naiki *mās* 'husband,' *māsa* 'wife,' Parji *mañja* ~ *mañña* 'man,' Gondi *manja* 'man, person,' Konda *māsi* 'husband,' Kurux *mēt* ~ *mēt* 'adult man, husband,' Tamil *māntar* 'people, men.' [D 4791; Illich-Svitych's comparison (N 292) is with D 4774: Tamil *mañ* 'king, chief, husband,' etc. The two are probably related.]

JAPANESE-RYUKYUAN: Old Japanese (wo-) *mina* 'woman' (mod. *onna*). [SY] AINU *meno(-ko)* ~ *mene(-ko)* 'woman.'

CAUCASIAN: Proto-Caucasian **mVnxV* 'man, male.' [NSC 116]

YENISEIAN: Proto-Yeniseian **pix-* 'man.' [NSC 116]

INDO-PACIFIC: Bilakura *munan* 'man,' Warenbori *mando*, Osum *aminika* 'woman,' Ikundun *mundu* 'man.' [FS 92, 93, 106]

NAHALI *mancho* ~ *manco* 'man,' *man-ṭa* 'men.' [NA 89]

MIAO-YAO: Proto-Miao-Yao **hmən* 'person,' Miao *hmoŋ* ~ *hmuŋ* (self-name of the Miao), Yao *man* ~ *myen* ~ *mun* (self-name of the Yao). [PB 336]

AMERIND: Almosan-Keresiouan: Bella Coola *man* 'father,' Pentlatch *mān*, Squamish *man*, Blackfoot *no-ma* 'husband'; Penutian: Coos *ma* 'person,' Kalapuya *menami*, Nisenan *manai* 'boy,' Rumsien *ama* 'person,' Hokan: Chumash *s-mano* ~ *ṭ-mano* 'man'; Chibchan-Paezan: Ayoman *ayoman* 'husband,' Warrau *moana* 'people'; Andean: Iquito *komano* 'father,' Yahgan *imun-* 'father,' *yamana* 'person'; Macro-Tucanoan: Yahuna *meni* 'boy,' *manehē* 'husband,' Yupua *manape*, Yuyuka *yemane*, Coto *ōmuna* 'man,' Proto-Nambikwara **mīn* 'father,' Kaliana *mīnō* 'man, person,' *imone* 'father-in-law,' Wanana *meno* 'man,' *manino* 'her husband,' Waikina *emeno* 'man'; Equatorial: Guahibo *amona* 'husband,' *itsa-mone* 'person,' Callahuaya *mana*, Achual *aišman* 'man,' Marawan *maki-b-mani* 'boy,' Chamicuro *ṭamoni* 'my father,' Manao *re-manao* 'person,' Proto-

Tupi **men* 'husband,' Guarani *mena*, Guajajara *man*; Macro-Carib: Apicaca *moni* 'boy,' Ocaina *moon* 'father,' Paravithana *mei-moen* 'son,' Miranya *itse-meni*; Macro-Panoan: Moseten *moinči* 'person,' Charrua *itojman* 'boy,' Guana *emmanabie* 'man'; Macro-Ge: Cayapo *män* 'person,' *miän* 'husband,' Chicriaba *aimaman* 'boy,' *mamaŋ* 'father,' Coroado *kuoyman* 'man.' [AM 154, AMN]

16 MENA 'to think (about)'

?KHOISAN: Sandawe *mě:na* 'to like.'

NIGER-CONGO: Fulup *-maman* 'know,' Mambila *mini* 'think,' Malinke *mən* 'understand,' Bambara *mē*, Proto-Bantu **māni* ~ **mèni* ~ **mèny* ~ **màn* 'know,' Namshi *meĩ*, Ibo *ma*, Mandyak *me*. [NC 28, KS 45, BA IV: 8, 12]

KORDOFANIAN: Tumale *aiman* 'think.' [NK 41]

NILO-SAHARAN: Songhai *ma* 'understand,' Daza *monər* 'know,' Dinik *mái*, Lotuko *mij*, Proto-Daju **minə* 'to dream,' Shatt *miniŋ*, Ik *miin-es* 'to love,' Teso *a-min*. [KS 45, NSB, KER]

AFRO-ASIATIC: Proto-Afro-Asiatic **man* 'think, understand, wish, desire, count'; Semitic: Sokotri *mnj* 'wish,' Tigrinya *tāmännäjä*, Arabic *mnw* 'understand,' Hebrew *mānāh* 'count,' Akkadian *manū*, Aramaic *mənā*; Cushitic: Somali *mān* 'mind'; Chadic: Angas *man* 'know,' Boleva *mon*, Masa *min* 'wish.' [N 281, AB 348]

INDO-EUROPEAN: Proto-Indo-European **men* 'to think'; Anatolian: Hittite *me-ma-a-i* (< **me-mn-eA-*) 'to say'; Italic: Latin *men(s)* 'mind,' *meminī* 'to remember,' *mon(-ēre)* 'to remind, warn'; Indic: Sanskrit *mānyatē* 'to think,' *mānas* 'mind'; Greek *mimnēskein* 'to remember'; Germanic: Gothic *munan* 'to think,' *muns* 'thought'; Baltic: Lithuanian *menù*, *miñti* 'to remember'; Slavic: Old Church Slavic *mīnēti* 'to count,' *pa-mę tī* 'mind, memory'; Albanian *mund* 'I can'; Armenian *i-manam* 'I understand'; Tocharian: Tocharian A *mnu* 'thought,' Tocharian B *mañu* 'wish (n.), desire (n.).' [IE 726, N 281, AB 348]

URALIC: Proto-Uralic (Illich-Svitych) **manV* ~ **monV* 'guess, speak, conjure,' (Rédei) **monə-* 'say'; Yukaghir *mon*; Samoyed: Yurak *maan*, Tavgy *muno* 'say, command'; Ugric: Hungarian *mon(-d)* 'say'; Finnic: Finnish *manaa* 'to warn, admonish, curse, bewitch,' Estonian *mana* 'abuse, curse,' Saami *moanâ* 'to conjecture,' Mordvin *muñä* 'bewitch,' Cheremis *mana* 'speak, order.' [U 53, N 281, AB 348, KR 290]

DRAVIDIAN: Tamil *mañu* 'prayer, request, word,' Kannada *manuve* 'request,' Telugu *manavi* 'prayer, humble request,' Irula *mañi* 'talk, speak,' Kota *mayñ-* 'talk, scold, abuse.' [D 4671, 4775, N 281]

?TURKIC: Turkish *mani* 'folk song,' Crimean Turkish *manä* 'folk song, melody.' [LN 281]

BASQUE *mun* 'medulla,' *munak* (pl.) 'brains.' [LC 916]

?BURUSHASKI *minas* 'story, tale.' [B 506]

?SINO-TIBETAN: Tibeto-Burman: Proto-Tibeto-Burman **r-miŋ* 'name,' Tibetan *miŋ*, 'Magari' *armin*, Limbu *miŋ*, Garo *miŋ* 'to name,' Burmese *mañ* 'to be named,' Mikir *mon* 'mind,' *mun-t'i* 'to think, understand, guess, assume, appreciate,' Midžu *moŋ* 'to summon.' [ST 83] Cf. also Proto-Tibeto-Burman **maŋ* 'dream,' often in composition with Proto-Tibeto-Burman **ip* 'sleep,' as in Nung *ip-maŋ* 'to dream,' Burmese *ip-mak* 'dream,' *hmaŋ(-tak-mi)* 'to be possessed (applied to somnambulism).' [ST 82]

AMERIND: Almosan-Keresiouan: Shawnee *menw* 'prefer, like,' Laguna *amū* 'love,' Catawba *muʔe* 'wish,' Thompson *iomin-* 'have friendly feelings,' Okanagan *iqamēn* 'love,' Kalispel *ṡamenč*, Spokane *-manən* 'wish,' Nootka *māna* 'try, test'; Penutian: Lake Miwok *mēna* 'think,' *menaw* 'try,' Bodega Miwok *munu* 'be hungry,' Patwin *meina* 'try'; Hokan: Chimariko *miʔinan* 'like,' Karok *ʔimnih* 'love'; Central Amerind: Chichimec *men*, Mixtec *manī*, Chibchan-Paezan: Chimila *mojnaya* 'wish,' Binticua *meyuno* 'seek,' Timucua *mani* 'wish,' Andaquei *miña-za* 'I sought,' Colorado *munai* 'love,' *muna-ha* 'wish'; Andean: Araucanian *mañumn* 'love,' Aymara *muna*, Sabello *mē* 'seek,' Cholona *men* 'wish,' Quechua *muna*; Equatorial: Otomi *manenianda* 'love,' *momene* 'think,' Baure *emeniko* 'love,' Kamayura *emanhau*; Macro-Panoan: Lengua *min-* 'wish,' Mataco *hemen* 'love,' Vejoz *humin*, Mascoy *emeni*, Caduveo *addemane* 'do you love me?'; Macro-Ge: Kamakan *mā* 'seek,' Krêye *mā-* 'wish, love,' Apinage *amnōnmōn* 'think.' [AM 270, AMN]

17 MI(N) 'what?'

KHOISAN: ≠Au.//eĩ *kama* 'if, when,' G//abake /*kam* 'when,' Naron *kama* 'if, when,' Nama *hamo* 'when,' *maba* 'where,' Kxoe *ma* 'who, which,' /Nu-//en *maba* 'where.' [SAK 384, 757, 758, UOL 71]

AFRO-ASIATIC: Proto-Afro-Asiatic **m(j)* 'what, who'; Semitic: Akkadian *mīn* 'what,' *mann* 'who,' *man-ma* 'whoever,' Geez *mī* 'what,' Amharic *min* 'what,' Arabic *man* ~ *min* 'who,' *mah-mā* 'whatever,' Aramaic *man* 'who,' Classical Hebrew *mī*, Ancient Egyptian *m(j)* 'who,' *m* 'what'; Berber: Tuareg *ma* 'what,' *mi* 'who,' Shilha *ma(t)* 'who, what,' *mīt* 'who'; Cushitic: Proto-East Cushitic **maʔ* 'what,' Saho *mi* 'who,' *mā* 'what,' Somali *māhā* 'what,' Oromo *māni* 'what,' *-mi* (interrogative particle), Sidamo *ma* 'what,' Darasa *ma* 'what,' *māta* 'who'; Omotic: Kaffa *amone* 'what,' Mocha *ámo*, Alagwa *mi* 'what,' *miya* 'who'; Chadic: Hausa *mè* ~ *mì* 'what,' Karekare *mija*, Margi *mì*, Bata *mən*, Ngala *mena*, Logone *mini* 'who,' Sokoro *-ma* (interrogative particle). [AA 77, N 300, UOL 71, LN 300]

- KARTVELIAN: Proto-Kartvelian **ma* ~ **maj* 'what,' **mi-n* 'who,' Georgian *ma* 'what,' *win* 'who,' *win-me* 'whoever,' Chan *mu* 'what,' *min* 'who,' Svan *maj* 'what.' [KA 124, 135, N 300, UOL 71]
- INDO-EUROPEAN: Proto-Indo-European **mo-* (base of interrogative adverbs); Anatolian: Hittite *ma-ši-š* 'how much,' *maḥḥan* 'when,' Luwian *mān*, Hieroglyphic Hittite *mana* 'if, when'; Celtic: Old Irish *má* 'if,' Middle Breton *ma* 'what'; Tocharian: Tocharian A *mānt* 'how.' [N 300, EU]
- URALIC: Proto-Uralic (Illich-Svitych) **mi* 'what,' (Rédei) **m₃*; Yukaghir *me-neme* 'something'; Samoyed: Tavgy *ma* 'what,' Yenisei Samoyed *mii*, Kamassian *mo* 'why'; Ugric: Vogul *mān* 'which, what,' Hungarian *mi* 'what, which'; Finnic: Finnish *mi* ~ *mi-kä*, Saami *mi* ~ *mā*, Cheremis *ma* ~ *mo*, Votyak *ma* 'what.' [U 54, N 300, EU, R 296]
- ?DRAVIDIAN: Kajakadi *midā* 'what,' Burgendi *mī*, Tamil (even-)um '(who)ever.' [N 300, UOL 71]
- TURKIC: Proto-Turkic **mi* 'what,' Chuvash *měn* 'what,' *miše* 'how much,' *měnlē* 'what kind of,' Old Uighur *mu* ~ *mü* (sentence question enclitic), Turkish *mi* (sentence question enclitic). [N 300, EU]
- MONGOLIAN: Mongolian *-ū* (< **wu* < **mu*) (sentence interrogative), Monguor *amu* ~ *ama* 'what.' [EU]
- TUNGUS: Tungus *-ma* (indefinitizer), (*ēku-*)*ma* '(what)ever.' [EU]
- KOREAN *muōt* 'what,' *mjet* 'how much,' Old Korean *mai* 'why.' [EU]
- JAPANESE-RYUKYUAN: Ryukyuan *mī* 'what,' *-mi* (sentence interrogative enclitic). [EU]
- AINU *mak* ~ *makanak* 'what,' *makan* 'what kind.' [EU]
- CHUKCHI-KAMCHATKAN: Proto-Chukchi-Kamchatkan **m-ənqV* 'what,' **m-ke* 'who,' **ma?* 'when,' **mij* 'which,' Chukchi *mikin* 'who,' *mi-k* 'where,' Kamchadal *min* 'which, what sort.' [EU, CK]
- CAUCASIAN: Proto-Caucasian **ma* (interrogative particle), Chechen *mila* 'who,' Bats *me*. [KA 135]
- BURUSHASKI *mēn* 'who,' *amin* 'which,' *mēn* (. . . *kē*) 'who(ever)'. [L 265]
- YENISEIAN: Proto-Yeniseian **wi-* ~ **we-* 'what.' [Y]
- INDO-PACIFIC: Andaman Islands: Biada *min* 'thing,' Bale *ming*; Central Melanesian: Laumbe *mina*, Reef (*kele*)*menge* 'this (thing)'; North New Guinea: Nyaura *məndə* 'thing, what,' Arapesh *mane* 'what'; Southwest New Guinea: Kati *man* 'something'; Central New Guinea: Matap *mina* 'what.' [IP 75]
- AUSTRALIAN: Proto-Australian **minha* ~ **minya* 'what,' Dyirbal *minya*, Pitta-Pitta *minha*, Gumbaynggir *minya*, Malyangapa *minhaga*, Yota-Yota *minhe*, Diyari *minha*. [RD 373, 376]
- NAHALI *mingay* 'where,' *miyan* 'how much.' [NA 91]

AUSTROASIATIC: Munda: Kurku *amae* 'who,' Mundari *ci-mae* 'why'; Mon-Khmer: Mon *mu* 'what,' Sakai *ma*, *āmai* 'who,' Central Sakai *mō*, *mā* 'what.' [NA 91, UOL 71]

AMERIND: Almosan-Keresiouan: Kwakwala *m'as* 'what,' Mandan *mana* 'who,' *matswe* 'what,' Tutelo *māʔtu* 'when'; Penutian: Siuslaw *mīnč*, North Sahaptin *mēn* 'where,' *mūn* 'when' *miš* 'how, why,' Nez Perce *mana* 'what,' *mine* 'where,' *maua* 'when,' Patwin *mena* 'where,' Central Sierra Miwok *manaχ* 'who,' *mičy* 'do what,' Northern Sierra Miwok *mini* 'where,' *mi-tan* 'when,' Bodega Miwok *manti* 'who,' San Jose Costanoan *mani* 'where,' San Francisco Costanoan *mato* 'who,' Chitimacha *ʔam* 'what,' Atakapa *ma* 'where,' Choctaw *mano* 'when,' *imato* 'where,' Yuki *im* 'who,' Coast Yuki *im* 'where,' Wappo *may* 'who,' Chontal *max*, Yucatec *ma-š*, Tzeltal *mač'a*, Jacaltepec *mat^s(a)*; Hokan: Yana *ʔambi*, East Pomo *am*, Chumash *muski*, Cocopa *makaya* 'where,' Diegueño *maap* 'who,' *maʔyum* 'when,' *maay* 'where,' Mohave *makač* 'who,' *maki* 'where,' Yuma *meki*, Maricopa *mekyenye* 'who,' *miki* 'where,' Akwa'ala *mukat* 'who,' Karankawa *muda* 'where'; Central Amerind: Mazatec *hme* 'what'; Chibchan-Paezan: Tarascan *ambe*, Guamaca *mai* 'who, how,' Kagaba *mai* 'who,' *mani* 'where,' *mitsa* 'when,' *mili* 'which,' Cacaopera *ma(-ram)* 'where,' Matagalpa *man*, Bribri *mīk* 'when,' Sumu *manpat*, Cabecar *mānē* 'which,' Move *ama* 'where,' Chimila *miki* 'who,' *murū* 'when,' *me-ma* 'to where,' *me-k* 'from where,' Guambiana *mu* 'who,' Totoro *man* 'how many,' Paez *manč* 'when,' *manka* 'where,' *manzos* 'how often,' *mants* 'how many,' *mau* 'how,' Cayapa *muŋ* ~ *maa* 'who,' Allentiac *men*, Catio *mai* 'where,' Colorado *moa* 'who,' *matuši* 'when'; Andean: Sek *xam-anmi* 'where,' Jebero *maʔ* 'what,' Cahuapana *ma-e* 'what,' *impi* 'when,' Quechua *ima* 'what,' *may* 'where'; Equatorial: Guamo *miku* 'what,' Yurucare *ama* 'who, which,' Tinigua *mné'á* 'who,' Yuruna *mane*, Paumari *-mani-* (interrogative), Candoshi *maya* 'what,' Esmeralda *muka*, Timote *mape* 'when,' Turiwara *maape* 'when, where,' Saliba *imakena* 'when,' Tuyoneri *menoka* 'when,' *me-yo* 'where,' Guajajara *mōn* 'who,' Guayaki *ma* 'what, how,' Guarani *mba'e* 'what,' *mamo* 'where,' Cofan *mā-ni*, Maripu *manu(b)* 'in which direction,' Kandoshi *maja* 'what'; Macro-Carib: Witoto *mika*, Miranya *mukoka* 'when,' *mu* 'whose,' Witoto-Kaimō *muka* 'which'; Macro-Panoan: Nocten *emetta* 'what,' *mequie* 'when,' Toba-Guazu *mi* 'who'; Macro-Ge: Caraho *ampo* 'what,' *manēno* 'when,' *ampō-mē* 'which,' Puri *ya-moeni* 'when,' Aponegicran *muena* 'what,' Cayapo *mā* 'where,' Umutina *mašika* 'where,' *matuni* 'why,' Krēye *menō* 'who,' *ampō-ny* 'why,' Botocudo *mina* 'who.' [AM: G103, AMN]

18 PAL '2'

- NIGER-CONGO: Temne (*kə*)*bari* 'twin,' Mano *pere* '2,' Nimbari *bala*, Daka *bara*, Proto-Bantu **bádí* ~ **bídí* '2,' **bádi* 'side.' [NC 48, KS 76, UOL 92, BA III: 21, 22, 43]
- NILO-SAHARAN: Nubian *bar(-si)* 'twin,' Merarit *wírre* '2,' Kunama *báaré* '2,' *ibā* 'twin,' Maba *mbar* '2,' Mesalit *mbarrá*, Tama *warri*, Baka *brūe*, Ilit *ball-ame*. [ES 119, KS 76, UOL 92, NSB]
- AFRO-ASIATIC: Omotic: Kafa *barā* 'other,' Mocha *baro*, Dime *bal*; Cushitic: Saho *baray* '2nd,' Oromo *bíra*; Chadic: Proto-Central Chadic *(*kV-*)*bwVr* '2.' [VB]
- INDO-EUROPEAN: Proto-Indo-European **pol* 'half, side'; Indic: Sanskrit (*ka-*)*palam* 'half'; Albanian *palë* 'side, part, pair'; Slavic: Old Church Slavic *polŭ* 'side, half,' Russian *pol* 'half.' [IE 802, 986, IS 356]
- URALIC: Proto-Uralic (Illich-Svitych) **pälä* ~ *pole* 'half,' (Rédei) **pälä* 'half, side'; Samoyed: Yurak Samoyed *peelee* 'half,' Selkup *pele*, Kamassian *pjeel* 'half, side'; Ugric: Hungarian *fél* ~ *fele* 'half, (one) side (of two),' Vogul *pääl* 'side, half'; Finnic: Saami *bælle* ~ *bæle* 'side, half, one of a pair,' Mordvin *peľ* 'side,' *pele* 'half,' Votyak *pal* 'side, half.' [U 67, IS 356, R 362]
- DRAVIDIAN: Proto-Dravidian **pāl* 'part, portion,' Tamil *pāl* 'part, portion, share,' Malayalam *pāl* 'part,' Kannada *pāl* 'division, part,' Tulu *pālu* 'share, portion, part,' Telugu *pālu* 'share, portion,' Parji *pēla* 'portion.' [D 4097, IS 356]
- INDO-PACIFIC: Andaman Islands: Biada (*ik-*)*pāūr(-da)* '2,' Kede (*ír-*)*pōl*, Chariar (*nér-*)*pól*, Juwoi (*ró-*)*pāūr*; New Guinea: Ndani *bere*, Sauweri *pere*; Tasmanian: Southeastern *boula* ~ *bura*, Southern *pooalih*. [T 331, VB]
- AUSTRALIAN: Proto-Australian **bula* '2,' Proto-Pama-Nyungan *(*nyuN*)*palV* '(you) two,' **pula* 'they two,' Ngiyambaa *bulā* 'one of a pair.' [RD 356, BB 7, 31]
- AUSTROASIATIC: Proto-Austroasiatic *?*(m)bar* '2'; Munda: Santali *bar*, Kharia (*u-*)*bar*, (*am-*)*bar* 'you two,' Juang *ambar*, Remo ?*mbār* '2'; Mon-Khmer: Khmu' *bār*, Bahnar ?*bar*, Jeh *bal*, Old Mon ?*bar*, Old Khmer *ber*, Sakai *hmbar*, Khasi *ār*, Riāng (*k-*)*ār*, Palaung *ār* ~ *a*, *par* 'you two,' Temiar *bər(-nar)* '2,' Central Nicobarese *ā*. [PB 135, UOL 94]
- MIAO-YAO: Proto-Miao-Yao *(*a*)*war* ~ *(*ə*)*wər* '2,' Proto-Miao **way* (< **war*), Proto-Yao *(*w*)*i*. [PB 415]
- DAIC: Mak *wa* 'twin,' Ong Be *von* '2.' [PB 415]
- AUSTRONESIAN: Proto-Austronesian **kə(m)bal* ~ *(*ŋ*)*kə(m)bar* 'twin,' Javanese *kēbar* 'doubled,' *kēmbar* 'twin,' Motu *hē-kapa* 'twins,' Roro *aka-bani* '8' (= 4-pair). [AN 76, WW 227, PB 415]

AMERIND: Penutian: Wintun *palo(-l)* '2,' Wappo *p'ala* 'twins,' Atakapa *hap-palst* '2,' Huave *apool* 'snap in two'; Chibchan-Paezan: Chiripo *bor* '2,' Xinca *bial* ~ *piar*, Bribri *bul* ~ *bur*, Cacaopera *burru*, Sanuma *-palo* (repetitive), *polakapi* '2,' Cayapo *pal'u*, Colorado *palu*, Atacameño *poya*; Andean: Quechua *pula* 'both,' Aymara *paja* '2,' Yamana *sa-pai* 'we-2' (*sa* = 'thou'), Yahgan (*i-*)*pai* '(we) two'; Macro-Tucanoan: Tuyuka *pealo* '2,' Wanana *pilia*, Desana *peru*, Yupua *apara*, Proto-Nambikwara **p'al(-in)*, Catuquina *upaua*, Hubde *mbeere*, Ticuna *peia*; Macro-Ge: Caraho *pa-'we-2-inc.*' [AM 262, AMN]

19 PAR 'to fly'

NIGER-CONGO: Proto-West Sudanic **pil* 'to fly,' Serer *fol*, Same *pere*, Ewe *flò* 'to jump,' Yoruba *fò* 'fly,' Grebo *fri*, Igbo *fé*, Ijo *fin*. [KS 32]

NILO-SAHARAN: Dinka *par* 'to fly,' Nubian *fire* 'to flutter,' Teso *a-poror* 'to fly,' Teda *bur-ci* 'to jump,' Songhai *firi* 'to fly,' Ik *por-on*, Maasai *-biri*, Majang *pir*. [KS 32, NSD 27, UOL 193, KER, HF 12]

AFRO-ASIATIC: Omotic: Proto-Omotic **pyaRR* 'to fly'; Ancient Egyptian *p* 'to fly, flee'; Semitic: Aramaic *parr* 'flee,' Arabic *farra*, South Arabian *ferfir* 'wing,' Amharic *barrara* 'fly away, flee'; Cushitic: Beja *fār* 'jump, hop,' Boyo *firy* 'flee'; Berber: Shilha *firri* 'to fly,' Ait Izdeg *afru*; Chadic: Ankwa *p'ār* 'jump,' Angas *piar* 'jump, leap,' Buduma *fār* 'fly, jump.' [CS 366, AA 32, IS 346]

KARTVELIAN: Proto-Kartvelian **p'er* 'to fly,' Georgian *p'er*, Svan *p'er*; Proto-Kartvelian **prin* 'to fly,' Georgian *prin* ~ *pren*, Mingrelian *purin*, Chan *putin*. [KA 152, 190, IS 346]

INDO-EUROPEAN: Proto-Indo-European **(s)per* 'to fly'; Indic: Sanskrit *par-ṇá* 'feather'; Iranian: Avestan *parəna* 'feather, wing'; Slavic: Old Church Slavic *perq* 'to fly,' *pero* 'feather.' [WP II: 21, IE 850, IS 346, EU]

URALIC: Yukaghir *perie* 'feathers,' *perienze* 'feathered,' *perien'* 'have wings'; Proto-Uralic **parV* 'to fly'; Ugric: Ostyak *pər* ~ *pur* 'to fly.' [IS 346]

DRAVIDIAN: Proto-Dravidian **parV* ~ **paṛV* 'to fly, run, jump,' Tamil *para* 'to fly, hover, flutter, move with celerity,' Malayalam *parakka* 'to fly, flee,' *para* 'bird,' *paru* 'flight,' Kota *parn-* 'to fly,' Toda *pōṛ*, Kannada *pār* 'to leap up, run, jump, fly,' Kodagu *pār* 'to fly, leap,' Telugu *paracu* 'to run away, flee,' *parika* 'a kind of bird,' Kui *pāsk* 'to fly,' Kuvi *prāḍ* 'to run away.' [D 4020, NSD 27, IS 346]

?TUNGUS: Evenki *hār* 'to soar.' [IS 346]

GILYAK *parpar* 'to hover, fly about.' [EU]

CAUCASIAN: Proto-Caucasian **pṛV* 'to fly,' Proto-West Caucasian **pəṛə*, Ubyx *pəṛə*, Abkhaz *pir*; Proto-Lezghian **pVr-*, Udi *pur*, Archi *parx*, Proto-Avar-Andi **par-pV-*; Proto-Caucasian **pārVpāḷV* 'butterfly, moth,'

Proto-West Caucasian **parəpalə* 'moth,' Proto-Lezghian **pa(r)pal* 'butterfly.' [C 162, 167; KA 152, 190]

BASQUE *pimpirina* 'butterfly' (< **pir-pir*-).

SINO-TIBETAN: Proto-Sino-Tibetan **phur* ~ **bhur* 'to fly'; Archaic Chinese **pjwər* 'to fly'; Tibeto-Burman: Proto-Tibeto-Burman **pur* ~ **pir* 'to fly,' Tibetan '*phur-ba*, Central Tibetan '*phir-ba*, Nung *əphr* 'to shake,' *khon-phr* 'moth,' Garo *bil* 'to fly,' Dimasa *bir*, ?Bahing *byer*, ?Abor-Miri *ber*. [ST 181, 398, NSC 152]

?INDO-PACIFIC: Baham *paru-baru* 'bird,' Kondo *boro*, Kare *purupuru*, Bunabun *piropir* 'butterfly.' [FS 8, 135]

NAHALI *aphir* 'to fly.' [NA 59; according to Kuiper this is a borrowing from Kurku]

AUSTROASIATIC: Munda: Proto-Munda **apir* 'to fly'; Mon-Khmer: Mon *pau*, Khmer *par*, Bahnar *par*, Jeh *pal*, Vietnamese *bay*. [PB 482]

DAIC: Tai: Proto-Tai **?bin* 'to fly,' Dioi *bin*; Sek *bil* ~ ?*bil*; Kam-Sui: Proto-Kam-Sui **pwen* ~ **bwen*, Kam *pen*, Sui *win* ~ *vyen*, Mak *vin*; Lakkia *pon*; Ong-Be *vin*. [PB 394]

AUSTRONESIAN: Proto-Formosan *(*maq*)*baR* 'to fly,' *(*mi*-)*pəRpəR*. [PB 394]

20 POKO 'arm'

?KHOISAN: Hadza *upukwa* 'leg, hind leg, foot,' *ufukwani* 'thigh.' [BD 247, 249]

NIGER-CONGO: Dagomba *boɔo* 'arm,' Gbaya *baxa*, Ewe *abo*, Zande *bo*, Proto-Bantu **bókò*, Sotho *le-boko* 'arm,' ?Wolof, Gbaya *buko* '10,' ?Mossi *piga*, ?Tiv *puwə*, ?Grebo *pu*, ?Vere *bo*. [KS 4, NC 44, UOL 194]

NILO-SAHARAN: Bagirmi *boko* 'arm,' Baka *baka*, Berta *buá*, Didinga *iba*. [KS 4, CN 3, UOL 194]

INDO-EUROPEAN: Proto-Indo-European **bhāghu(s)* 'arm, forearm, elbow'; Indic: Sanskrit *bāhūḥ* 'arm'; Iranian: Avestan *bāzus*; Armenian *bazuk* 'forearm' (a loan from Iranian languages, according to Pokorny); Tocharian: Tocharian A *poke* 'arm,' Tocharian B *pauke*; Greek *pakhus* 'elbow, forearm'; Germanic: Old English *bōg* 'arm, shoulder, bough,' English *bough*. [IE 108, UOL 194]

DRAVIDIAN: Kurux *pāknā* 'to take up into one's arms,' Malto *páke* 'to take in the lap.' [D 4050]

MONGOLIAN: Proto-Mongolian **baɣu*- 'upper arm.' [AD 20]

BURUSHASKI: Hunza *baɣu* 'double armful,' Werchikwar *baɣ'o* 'taking or embracing in two arms.' [B 65, W 38]

YENISEIAN: Proto-Yeniseian **boq* 'hand, palm.' [Y 28]

SINO-TIBETAN: Tibeto-Burman: Proto-Tibeto-Burman **pow* ~ **bow* 'arm' (cf. English *bough* for a similar phonetic development). [TB 442]

?INDO-PACIFIC: Andaman Islands: Bea *pag* 'claw,' Bale *poag*; Tasmanian

pögaréna 'shoulder'; New Britain: Sulka *paaga* 'fingernail'; West New Guinea: Baham *pag*; North New Guinea: Nafri *faxa*; East New Guinea: Amara *foka*; Unclassified New Guinea: Tate *faha* 'claw.' [IP 858]

NAHALI *boko* ~ *bokko* 'hand.' [NA 74]

?AUSTROASIATIC: Semang *pāk* 'hand,' *ta-pak* 'to slap.' [NA 63]

DAIC: Tai: Proto-Tai **ʔba* 'shoulder'; Sek *va*; Kam-Sui: Mak *ha*; Ong-Be *bea*; Li: Proto-Li **va*; Laqua *muə* 'shoulder' (< **mb(γ)a*). [PB 378]

AUSTRONESIAN: Proto-Austronesian **(ʔa)-baɣa* 'shoulder,' Proto-Formosan **qa-baɣa-(a)n*, Proto-Oceanic **(qa)paɣa*, Mukawa *kabara*, Paiwa *kavara*. [AN 19, WW 187, PB 378]

AMERIND: Almosan-Keresiouan: Mandan *sūpaxe* 'arm,' Dakota *xupahu*, Biloxi *sōpka* 'fin'; Penutian: Natchez *ilbak* 'hand,' Choctaw *ibbok* 'hand, arm,' Chitimacha *pākta* 'armpit,' Totonac *paqniʔ* 'arm,' Huastec *pahāb* 'hand,' Quiche *sipax* 'give'; Hokan: Yana *dac-buku* 'arm,' Salinan *puku*, Chumash *pu*, Cochimi *ginyakpak*, Mohave *hivipuk*, Havasupai *vuy-eboka*, Subtiaba *paxpu*; Chibchan-Paezan: Shiriana *poko* ~ *boko*, Cuitlatec *poxja*, Jutiapa *paxa*, Chiquimulilla *pux* 'hand,' Xinca *pahal* 'arm,' Paya *bakapu* 'give,' Cayapa *pexpex* 'arm,' Colorado *pexpe*, Mura *apixi*, Chimu *pik* 'give,' Puruha *pux*; Andean: Culli *pui* 'hand,' Simacu *bixi*, Allentiac *pux* 'give,' Auca *po* 'hand,'; Macro-Tucanoan: Canamari *pōghy* 'hand,' Papury *mbake*, Tiquie (*m*)*bake* 'arm,' Kaliana *kijapakuba*, Catauxim *ču-bakō* 'hand,' Proto-Nambikwara **pik*; Equatorial: Chamacoco *pukē* 'arm,' Turaha *pogo*, Camsa *buakua-ha*, Coche *buakwače* 'hand, forearm,' Ramarama *i-pāɲua* 'arm,' Karif *bugalaga* 'armpit,' Omagua *poa* 'hand,' Proto-Tupi **po*, Yuracare *popo*, Kamaru *bo* 'arm,' Aruashi *bu* 'hand'; Macro-Carib: Muinane *ɔnɔ-bwiki* 'arm,' Mocoa *apo*, Ocaina *ooʔpo* 'hand,' Tamanaco (*j*-)*apa(-ri)* 'arm,' Coeruna (*ko*-)*ipai*; Macro-Panoan: Chulupi *pakat* 'hand,' Suhin *pakat-ai*, Sanapana *in-apheik*, Charrua (*is*-)*bax* 'arm,' Toba *apige*, Chacobo *baš* 'elbow, forearm,' Proto-Tacanan **bai* 'arm'; Macro-Ge: Botocudo *po* 'hand,' Proto-Ge **pa* 'arm,' Kaingan *pe*, Chiquito (*i*-)*pa*, Guato (*ma*-)*po*. [AM 7, MT 46, AMN]

21 PUTI 'vulva'

NIGER-CONGO: Mande: Malinke *butu* 'vulva,' Guro *buri*, Bobo-Fing *bido*, Bisa *bid*; Bantu: Luganda *-butu* 'womb,' Kunda *-budu*, Swazi *-ngoboti*, Ki-sikongo *-buti*. [HJ, M]

NILO-SAHARAN: Songhai: Gao *buti* 'vulva,' Djerma *bute*; Koman: Ganza *pit*, Koma *bitt*. [NS 145, NSD 59]

AFRO-ASIATIC: Proto-Afro-Asiatic **pwt* 'hole, anus, vulva'; Omotic: Ganjule *pote* 'vagina'; Semitic: Hebrew *pot* 'vulva' ("secret parts" in the King James Version, Isaiah 3:17); Cushitic: Somali *fúto* 'anus,' Darasa *fido*

- 'genitals,' Oromo *fuḡi* 'vulva'; Chadic: Jegu *paate*, 'vulva,' *paato* 'penis,' Angas *fut* 'hole.' [CS 381, IS 340, WM 64]
- KARTVELIAN: Proto-Kartvelian **put* 'hole,' Svan *put'u*. [IS 340]
- INDO-EUROPEAN: Proto-Indo-European **puto* 'cunnus'; Indic: Sanskrit *pūtau* 'buttocks'; Italic: Vulgar Latin **putta* 'girl,' Old French *pute* (mod. *putain*) 'whore,' Provençal *puta(-na)*, Spanish *puta*; Germanic: Old Icelandic *fuð* 'cunnus,' Middle High German *vut* 'vulva,' Swiss German *fotz* ~ *fotza*, Swedish *fitta*, *fod* 'rear end' (dialectal). [WP II: 21, IE 848, SM 1013]
- URALIC: Proto-Uralic (Illich-Svitych) **putV* 'rectum,' (Rédei) **putz* 'rectum, colon'; Ugric: Ostyak *pūti* 'rectum'; Finnic: Saami *buttēgē*. [U 91, IS 340, R 410]
- DRavidIAN: Brahui *punḍū* 'anus, buttocks,' pōs 'vulva,' Tamil *puṇṭai* 'vulva,' pūru ~ pūu 'anus,' poccu 'vulva, anus,' Malayalam *pūru* 'buttocks, vulva,' Kannada *pucci* 'vulva,' Telugu *pūḍa* 'anus,' Tulu *pūti* 'vulva,' Kodagu *puri*, Kota *piḍ*, Toda *piḍy* 'penis,' Kuwi *putki*. [D 4273, 4379, 4476, NSD 59]
- MONGOLIAN: Middle Mongolian *hütü-gün* 'vulva.'
- JAPANESE-RYUKYUAN: Old Japanese *p^hcto* 'vulva' (mod. *hoto*). [SY]
- ESKIMO-ALEUT: Proto-Eskimo-Aleut **putu* 'hole.' [EA]
- CAUCASIAN: Proto-Caucasian **pūt'i* 'genitals (mostly female),' Proto-Nax **but* 'vulva,' Proto-Avar-Andi **but'a*, Proto-Lak **put'i* 'tube,' Proto-Dargi **put'i* 'anus,' Proto-Lezghian **pōt* 'penis.' [C 168]
- BASQUE *poto-rro* 'pubis, vulva.'
- ?AUSTRALIAN: Luridya *pudā* 'vulva.' [VB]
- ?AUSTRONESIAN: Proto-Austronesian **betik* 'vagina,' **puki* 'vulva' (< **puti* ?; cf. East Rukai *pati* 'vulva'), Ami *puki*, Tsou *buki* 'penis.' [AN 121, WW 231, 233, PB 417]
- AMERIND: Almosan-Keresiouan: Delaware *saputti* 'anus,' Mohegan *sebud*, Wiyot *beš* 'vagina,' Upper Chehalis -pš 'anus'; Penutian: Chinook *puč*, Yaudanchi *poto* 'penis,' San Juan Bautista *lapus* 'anus,' Southern Sierra Miwok *pōtol*; Hokan: Washo (*d-*)*ībis* 'vagina,' Karok *vīθ*, Diegueño *hapīčatt*, Tequistlatec (*la-*)*bešu?*; Chibchan-Paezan: Move *butie*, Paya *peta-is-tapcca* 'anus,' Chimu *pot*, Ayoman *busi* 'vagina,' Allentiac *poru*; Andean: Quechua *upiti* 'anus,' Yamana *pūta* 'hole,' Aymara *p^hut^hu*; Macro-Tucanoan: Gamella *sebu* 'vulva,' Uaiana *mbitiko* 'anus,' Uasōna *hibitiko*; Equatorial: Guahibo *petu* 'vagina,' Guayabero *sil-f^huta* 'vulva,' Kandoshi *apēir(-ič)*, Toyeri *apuit* 'vagina,' Wachipairi *ped*, Piapoko *a^hutani* 'buttocks,' Tariana *pāti-niawa* 'vagina,' Warakena *pēde* 'clitoris,' Caranga *piče* 'vulva,' Uro *piši*, (cf. also such Equatorial forms as Siusi *t^su-pote* 'vagina,' Campa *sibiči* 'vulva,' *šibiči* 'penis,' Uro *šapsi* 'genital organ'); Macro-Carib: Jaricuna *poita* 'vagina,' Pimenteira *pütze-maung*, Waiwai *boči* 'pubic hair,' Motilon *pirri* 'penis'; Macro-Panoan: Cavineña

busu-kani 'anus,' Tagnani *opet*, Tiatinagua *besi* 'penis,' Panobo *buši*,
Lule *pesu*; Macro-Ge: Mekran *putote*. [AM 263, EQ 121, AMN]

22 TEKU 'leg, foot'

NIGER-CONGO: Konyagi *-tak* 'heel,' Gurmana *-duge*, Jarawa *-dudug-ul*, Kikuyu *-togigo*. [HJ II]

NILO-SAHARAN: Proto-Kuliak **tak'a* 'foot, shoe,' *takw* 'step on, tread on,' So *tæg* 'foot'; Saharan: Daza *dige* 'leg,' Kanuri *dəŋgal* 'wade,' Kanembu *dō ~ duu* 'leg,' Berti *taki* 'thigh,' Karda *digi* 'foot.' [VB, NSB]

AFRO-ASIATIC: Omotic: Male *toki* 'leg,' Koyra *toke*, Kachama *tuke*, Bambeshi *tuge* 'foot,' Nao *tego* 'to go,' Dime *tingo*; Cushitic: Proto-East Cushitic **tāk-*, Somali *tag-* 'to go,' Dahalo *daka'a* 'foot'; Chadic: Proto-West Chadic **tak-* 'to walk with somebody, accompany,' Muzgum *túgu* 'foot,' Gollango *tañ* 'to go.' [VB, LN 255, OS 166]

DRAVIDIAN: Proto-Central Dravidian **tāk* 'to walk,' Parji *tāk*, Pengo *tāŋ(g)*, Kui *tāka*. [D 3151, LN 255] Cf. also Telugu *dekka* 'hoof,' Naikri *dekka*, Konda *deka*, Kuwi *dekka*. [D 2970]

CAUCASIAN: Proto-Caucasian **t'Hǎlq^wV* 'part of the leg,' Proto-East Caucasian **t^weh^wV* 'foot,' Proto-Dido **t'iq^wV* 'sole of the foot,' Proto-Lezghian **t'elq^wT* 'shin, ankle.' [C 196]

NA-DENE: Proto-Eyak-Athabaskan **t'ǎx ~ *t'ǎh* 'foot.' [DC]

INDO-PACIFIC: Tasmanian *tokāna* 'foot'; Timor-Alor: Abui *tuku* 'leg, foot'; Halmahera: Ternate *tagi* 'to walk'; Central Melanesian: Savo *tetegha* 'foot, lower leg'; Tasmanian: Northeast *tage(-na)* 'to walk,' North *taka(-ri)*, Southeast *taga(-ra)*; North New Guinea: Arso *taka* 'foot'; Southwest New Guinea: Marind *tagu* 'to walk,' Telefol *tek* 'to go'; South New Guinea: Mombum *itōgh* 'foot,' Bara *togoi* 'leg'; Central New Guinea: Ekari *togo* 'to walk,' Matap *tag* 'hip'; East New Guinea: Jegasa Sarau *tegi* 'foot.' [IP 80, T 458]

AMERIND: Almosan-Keresiouan: Mandan *dok'a* 'leg,' Hidatsa *idiki*, Penu-tian: Siuslaw *tsīk^w* 'foot,' North Sahaptin *təχp* 'with the foot,' Nez Perce *texé?p* 'foot,' Wintu *t'ek-* 'move,' Mixe *tek* 'foot,' Huastec *t^sehet* 'upper leg'; Hokan: Jicaque *tek* 'leg'; Chibchan-Paezan: Borunca *tek ~ dek* 'walk,' Move *dikeko*, Atanque *dukakana* 'leg,' Baudo *tači-kini* 'foot'; Andean: Simacu *tixea* 'foot,' Yahgan *kadek* 'walk'; Macro-Tucanoan: Tiquie *do(γ)* 'leg,' Wanana *dexso* 'thigh'; Equatorial: Tinigua *diki* 'foot,' Piraroa *tsihépē*, Wapishana *čikep* 'walk,' Arawak *adikki-hi* 'footprint,' Miguri *guateke* 'walk,' Guayabero *tuk* 'foot,' Yurucare *tekte* 'leg,' Guahibo *taxu* 'foot'; Macro-Carib: Bora *take* 'leg,' Andoke (*ka-*)*dekkhe* 'foot'; Macro-Panoan: Cavineña *edači*, Panobo *taeg*, Mayoruna *taku*, Amahuaca *taku*; Macro-Ge: Oti *etage* 'leg,' Cotoxo *täxkatse*, Camican *tako-emaŋ* 'walk,' Proto-Ge **tɛ* 'leg.' [AM 165, AMN]

23 TIK 'finger; one'

- NIGER-CONGO: West Atlantic: Fulup *sik* ~ *sex* 'finger,' Nalu *te*; North-Central Niger-Congo: Gur *dike* '1'; South-Central Niger-Congo: Gwa *dogbo*, Fon *dòkpá* Ewe *dèká*; Bantu: Tonga *tiho* 'finger,' Chopi *t'ihó*, Ki-Bira *zika*, Ba-Kiokwa *zigu*. [KS 55, UOL 91, HJ II: 295]
- NILO-SAHARAN: Fur *tók* '1,' Maba *tək*, Dendje *doko* 'ten,' Nera *dókk-u* '1,' Merarit *tok* 'ten,' Dinka *tok* '1,' Berta *dúkóni*, ?Mangbetu *t'ε*, Kwama *seek-o*, Bari *to*, Jur *tok*, Twampa *dè?*, Komo *dé*. [NS 103, CN 72, ES 83, KS 55, UOL 91, NSB]
- AFRO-ASIATIC: Proto-Afro-Asiatic **tak* '1'; Semitic: Peripheral West Gurage *təgu* (*əmmat*) 'only 1'; Cushitic: Oromo *toko* '1,' *takku* 'palm (of hand),' Yaaku *tegei* 'hand,' Saho *ti* '1,' Bilin *tu*, Tsamai *dōkko*; Berber: Nefusa *tukoḍ* 'finger'; Chadic: Hausa (*ḍaya*) *tak* 'only 1,' Gisiga *tēkoy* '1,' Gidder *te-teka*, Logone *tku* 'first.' [AAD 3: 10]
- INDO-EUROPEAN: Proto-Indo-European **deik* 'to show, point,' **dekṃ* '10'; Italic: Latin *dig(-itus)* 'finger,' *dic(-āre)* 'to say,' *decem* '10'; Germanic: Proto-Germanic **taihwō* 'toe,' Old English *tahe* 'toe,' English *toe*, Old High German *zēha* 'toe, finger.' [IE 188, 191, EU]
- URALIC: Votyak *odik* '1,' Zyrian *ōtik*. [U 138, EU]
- TURKIC: Chuvash *tek* 'only, just,' Uighur *tek* 'only, merely,' Chagatai *tek* 'only, single,' Turkish *tek* 'only,' *teken* 'one by one.' [EU]
- KOREAN (*t*)*tayki* '1, thing,' *teki* '1, guy, thing,' Old Korean *tēk* '10.' [EU]
- JAPANESE-RYUKYUAN: Japanese *te* 'hand.' [UOL 195]
- AINU *tek* ~ *teke* 'hand,' *atiki* 'five.' [UOL 195, EU]
- GILYAK *řak* 'once.' [EU]
- CHUKCHI-KAMCHATKAN: Kamchadal *itygin* 'foot, paw.' [EU]
- ESKIMO-ALEUT: Proto-Eskimo-Aleut **q(i)tik* 'middle finger'; Eskimo: Kuskokwim *tik(-iq)* 'index finger,' Greenlandic *tik(-iq)* 'index finger,' *tikkuag-paa* 'he points to it'; Aleut: Attu *tik(-laq)* 'middle finger,' *atgu* 'finger,' *tayataq* '1,' Atka *atakan*. [EU, EA 121]
- YENISEIAN: Proto-Yeniseian **tok* 'finger.' [VT]
- SINO-TIBETAN: Archaic Chinese **t'jek* 'single, 1'; Tibeto-Burman: Proto-Tibeto-Burman **tyik* '1,' Rai *tik(-pu)*, Tibetan (*g-*)*tśig*. [ST 94]
- NA-DENE: Haida (*s-*)*t'a* 'with the fingers'; Tlingit *t'eeq* 'finger,' *t'ek* '1'; Eyak *tikhi*; Athabaskan: Sarsi *tlik'-(aza)*, Kutchin (*ī-*)*ṭag*, Hupa *ṭa?*, Navajo *ṭa?*. [ND]
- INDO-PACIFIC: Tasmanian: Southern *motook* 'forefinger,' Southeastern *togue* 'hand'; West New Guinea: Proto-Karonan **dik* '1'; Southwest New Guinea: Boven Mbian *tek* 'fingernail,' Digul *tuk*. [IP 37, SWNG 39, SNG 42, UOL 195]

- AUSTROASIATIC: Proto-Austroasiatic **(k-)tig* 'arm, hand'; Munda: Kharia *ti?*; Mon-Khmer: Riang *ti?*, Wa *tai?*, Khmer *ʔai*, Vietnamese *tay*, Proto-Aslian **tik* ~ **tiŋ*. [PB 467, UOL 195]
- MIAO-YAO: Proto-Miao-Yao **nto?* 'finger'; Proto-Yao **do?*; Proto-Miao **ntai* 'point with the finger.' [PB 356]
- DAIC: Proto-Li **dliəŋ* 'finger,' Northern Li *tleəŋ* ~ *theŋ*, Loi *theŋ* ~ *ćiaŋ*. [PB 356]
- ?AUSTRONESIAN: Proto-Austronesian **(tu-)diŋ* 'point with the finger.' [AN 140, WW 156, PB 356, UOL 195]
- AMERIND: Almosan-Keresiouan: Nootka *takʷa* 'only,' Bella Coola *tʰiʔxʷ* 'five,' Kalispel *tʰoqʷ* 'point with the finger,' Kwakwaka *sokʷ* 'five,' Nitinat *-tsoq-* 'in hand,' Cherokee *sakwe* '1,' Acoma *ʔiskaw*, Pawnee *uska*, Mohawk *tsiʔer* 'finger,' Hidatsa *šaki*, Winnebago *sāk*, Quapaw *čak*, Biloxi *ičaki* 'fingers,' Yuchi *saki* 'hand'; Penutian: Southern Sierra Miwok *tʰik'a?* 'index finger,' Wintun *tiq-ələs* '10,' Nisenan *tok-* 'hand,' Mixe *toʔk* ~ *tuk* '1,' Sayula *tuʔk*, Tzeltal *tukal* 'alone,' Quiche *tik'ex* 'carry in the hand,' Hokan: Proto-Hokan **dik'i* 'finger,' Karok *tik* 'finger, hand,' Achumawi (wa-) *túči* 'finger,' Washo *tsek*, Yana *-tʰgi-* 'alone,' East Pomo *bī'ya-tsūkai* 'finger,' Arraarra *teeh'k* 'hand,' Pehtsik *tiki-vash*, Akwa'ala *ašit-dek* '1'; Central Amerind: Nahua *tʰiikiaʔa*, Pima Bajo *čič*, Tarahumara *sika* 'hand,' Mazatec *čikaʔā* 'alone,' Mangue *tike* '1,' Cuicatec *diči* '10'; Chibchan-Paezan: Chibcha *ytiquyn* 'finger,' *ačik* 'by ones,' Borunca *e'tsik* '1,' Guatuso *dooki*, Shiriana *ĩthak* 'hand,' Ulua *tinka-mak* 'finger,' Paez *te eč* '1,' Allentiac *tukum* '10,' Warrau *hisaka* 'finger, 1'; Andean: Cahua-pana *itekla* 'finger, hand,' Jebero *itökla*, Alakaluf *tākso* '1,' Quechua *sōk*; Macro-Tucanoan: Siona *tekua*, Siona *teg-li* '5,' Canichana *eu-tixle* 'finger,' Ticuna *suku* 'hand,' Yupua *di(x)ka* 'arm,' Uasöna *dikaga*; Equatorial: Upano *tʰikitik* '1,' Aguaruna *tikiŋ*, Murato *tʰiči* 'hand,' Uru *tʰi* '1,' Chipaya *zek*, Itene *taka*, Guamo *dixi* 'finger,' Katembri *tika* 'toe,' Yuracare *teče* 'thumb'; Macro-Carib: Kukura *tikua* 'finger,' Accawai *tigina* '1,' Yagua *teki*; Imihita *meux-tsekoa* 'finger,' Trio *tinki* '1,' Ocaina *dikabu* 'arm'; Macro-Panoan: Mataco *otejji* '1,' Tagnani *etegueno* 'finger,' Sensi (*nawiš*)-*tikoe* '1 (finger)' Cavineña *eme-toko* 'hand,' Moseten *tak* '10'; Macro-Ge: Botocudo (*po*)-*čik* '1 (finger),' *gik* 'alone,' Proto-Ge **(pi-)tʰi* '1 (finger).' [AM 110, MT 1, DL 56, AMN]

24 TIKa 'earth'

- ?NIGER-CONGO: Proto-Bantu **tākà* 'earth, mud, ground, soil,' Swahili *taka* 'dirt, refuse.' [BA IV: 87].
- ?NILO-SAHARAN: Berta *adok'o(ŋ)* ~ *atok'o(ŋ)* 'mud.' [Bender 1989]

KARTVELIAN: Proto-Kartvelian **tiqa* ~ **diqa* 'soil, clay,' Georgian *tixa* 'clay, dirt' (< Old Georgian *tiqa*), Mingrelian *dixa* ~ *dexa* 'soil, earth,' Chan (*n*)*dixa* 'soil.' [KA 94, N 69]

INDO-EUROPEAN: Proto-Indo-European **dhghem* 'earth'; Anatolian: Hittite *te-e-kan*; Indic: Sanskrit *kṣam*; Iranian: Avestan *zā*; Albanian *dhe*; Italic: Latin *humus*; Celtic: Old Irish *dū* 'place'; Baltic: Latvian *zeme* 'earth'; Slavic: Old Church Slavic *zemlja*; Tocharian: Tocharian A *tkam*. [IE 414, N 69]

DRAVIDIAN: Tamil *tukaḷ* 'dust,' Telugu *dūgara* 'dust, dirt,' Kolami *tūk* 'dust, earth, clay,' Naikri *tuk* 'earth, clay,' Parji *tūkud* 'earth, clay, soil,' Gadba *tūkuṛ* 'earth, clay.' [D 3283]

JAPANESE-RYUKYUAN: Old Japanese *tuki* 'mud,' *tuki* 'land' (mod. *t^suki* ~ *t^suči*). [SY]

BURUSHASKI *tīk* ~ *tik* 'earth, ground.' [B 351]

YENISEIAN: Proto-Yeniseian **təq-* 'clay, dirt,' Ket *tag-ar* 'clay,' Kot *t^hag-ar* 'dirt.' [SC 76]

SINO-TIBETAN: Lushei *diak* 'mud,' Sho *d^hek* ~ *dek* 'earth.' [IST 221]

NA-DENE: Haida *t'ig* ~ *t'ga* ~ *klik* 'earth, ground' (cf. TIK 'finger' above for a similar shift of *t* > *t'* before *i*); Tlingit (*t'it-*)*tik* ~ *t'iak-ū* ~ *klatk* 'earth'; Eyak (Yakutat) (*tza*)*t'kh* 'earth.' [ND]

NAHALI *t^sikal* ~ *sikal* 'earth.' [NA 67; probably a borrowing of Kurku *t^sikal* 'mud,' according to Kuiper.]

AMERIND: Almosan-Keresiouan: Bella Bella *təq^wum* 'dirty,' Nootka *t^sak^umt^s* 'earth,' Kwakwaka *dzəqwa* 'mud,' Squamish *tíq^w* 'muddy,' Lower Fraser *s-t'iqəl*, Seneca *-tki-* 'dirty,' Yuchi *s'ak³* 'mud,' Hidatsa *iḥatsaki* 'dirty,' Acoma *há?at^si* 'land'; Penutian: Tsimshian *ma?tk^s* 'dirty,' Pokonchi *t^sikot*, Mam *čokš* 'earth,' Mixe *mə?əts* 'mud,' Sayula *mo?ts*, Ixil *šok'ol*, Quiche *šəq'ox* 'muddy'; Hokan: Shasta *t^s'ik* 'mud,' Achomawi *teqade* 'earth,' Diegueño *taketak* 'dirty'; Central Amerind: Cora *t^si?it^sa*, Hopi *čit^skia* 'earth,' Chatina *t^suuh* 'dirty,' Proto-Central Otomi **t^so*, Chinantec *suh* 'dirt'; Chibchan-Paezan: Xinka *tuxa* 'mud,' Binticua *tikan*, Bribri *ičuk* 'earth,' Rama *taki*, Cabecar *du-čeka* 'mud,' Guambiana *čig*, Allentiac *toko*, Cayapa *tu* 'earth'; Andean: Quechua *č'iči* 'dirty,' Pehuelche *atek* 'earth,' Tehuelche *takhs* 'dirty'; Macro-Tucanoan: Papury *tixsa*, Yupua *tīxta* 'earth,' Tucano *dixta*, Sārā *sixta*, Canichana *ni-čixiči*, Nadobo *togn* 'mud'; Equatorial: Tinigua *tokwana* 'earth,' Caranga *t^suxt^si* 'dirty,' Chamicuro *t^sixta* 'earth,' Cocoma *tuguka*; Macro-Carib: Yabarana *ašikipe* 'dirty,' Witoto *sagope* 'mud'; Macro-Panoan: Toba-Guazu *toko* 'dirty,' Lengua *atits*, Chulupi *tīs* 'wet ground,' Tacana *ači* 'dirty'; Macro-Ge: Chiquito *tuki-s*, Bororo *txu*, Chavante *tika* 'earth,' Apinage *tugu* 'dirty,' Cayapo *tuk*. [AMN]

25 TSAKU 'leg, foot'

?NIGER-CONGO: Bantu: Proto-Bantu *t^sàkù 'calf of the leg.' [BA 79]

NILO-SAHARAN: East Sudanic: Jur čok 'foot,' Zilmamu šowa 'foot,' Nera šokna 'foot, claw,' Proto-Dinka-Nuer *t^sok 'foot'; Gumuz: Proto-Gumuz *t^sogwa, Proto-Koman *šok, Komo šawk^h, Twampa šòg, Kwama sɔŋk'. [VB, NSB]

AFRO-ASIATIC: Cushitic: Beja sikwina 'foot,' Quara sukanā; Semitic: Hebrew šoq 'leg,' Arabic sāq; Berber: Shilha (ta-)zux(-t) 'foot'; Chadic: Proto-West Chadic *sAkA 'leg,' Bolewa šeke 'foot,' Fali sika. [CS 265, AA 34, OS 292]

INDO-EUROPEAN: Indic: Sanskrit sak(-thi) 'thigh'; Iranian: Avestan hax(-ti); Celtic: Welsh heg(-ol) 'leg, shank.' [IE 930]

URALIC: Yukaghir t^soŋ(-ul) 'foot, leg'; Ugric: Ostyak sāg(-əńt') ~ soh(-əť) ~ sog(-əs) 'back side of the leg from the heel to the bend of the knee (of a human being); back hoof (of a horse); Finnic: Saami čæwǵa ~ čæwǵe 'hock of reindeer or other quadruped.' [U 92]

CHUKCHI-KAMCHATKAN: Kamchadal t^sk(-ana) ~ t^ski 'foot, leg, paw.' [Swadesh 1962]

CAUCASIAN: Proto-Caucasian *č'V[l]k^wV 'foot, hoof,' Proto-Avar-Andi *č'ik^wa 'foot.' [C 75, DC]

BURUSHASKI: Hunza šak 'arm, forearm (of a human being); thigh, upper part of the leg (of an animal),' Werchikwar šak. [B 320, W 215]

?SINO-TIBETAN: Ancient Chinese *ts^hwok 'foot,' Cantonese tšuk.

INDO-PACIFIC: Andaman Islands: Onge t^sige 'leg,' Biada t^sag, Puchikwar t^sok, Juwei čok; Central New Guinea: Mikaru saga 'foot,' Grand Valley Dani (ne-)sok '(my) foot'; East New Guinea: Korona sogo 'foot,' Sikube suku, Mafulu soge, Kambisa suga. [IP 80, T 458]

AUSTROASIATIC: Munda: Kharia d^zuŋ 'foot'; Mon-Khmer: Mon t^söŋ 'foot, leg,' Khmer d^zɿŋ 'leg, foot,' Temiar d^zoŋ ~ d^zukⁿ, Mah Meri d^zogn, Shompen čuk 'foot.' [VB]

AMERIND: Almosan-Keresiouan: Proto-Algic *-sōʔk-ani ~ -šōʔk-ani 'hip,' Kutenai saq 'leg,' Quileute t-t^soq^w 'foot,' Squamish -čq 'hip, side,' Okanagan s-t^sōqan 'leg,' Yuchi go-čuko 'thigh'; Penutian: Nass asāx 'foot,' Siuslaw t^sik^w, Klamath č'ōg 'leg,' bo-sak-l' 'thigh,' Lake Miwok čúki 'hip,' Wappo čoke 'hip bone,' Zuni sak^{wi} 'leg,' Atakapa ʔaška 'foot,' Huave tsāk 'leg,' Mam čog, Tzotzil čakil 'hip'; Hokan: Achomawi šakō 'leg,' Northern Pomo šaku, Eastern Pomo šāko, Kashaya šahku, Yana d^zūk^wuwalla 'hip,' Mohave t^sakas; Central Amerind: Mazatec n-t^saku 'his foot,' Popoloca t^sāgu 'leg,' Mixtec t^saha 'hip,' Ixcatec t^saku 'leg,' Chocho t^sagua; Chibchan-Paezan: Tarascan t^sika-hta-kua 'thigh,' Murire sokua-

gete, Sabanero *suagnet* 'leg,' Binticua *júkue*, Andaqui *sogua-para* 'foot,' Itonama *uj-sahua-no* 'leg,' Jirajira *a-sagan-ipipo*, Timucua *secah*; Andean: Proto-Quechuan **čaki* 'foot,' Yahgan *čikan* 'leg,' Alacaluf *čekur* 'foot'; Macro-Tucanoan: Särä *tsagalo* 'thigh,' Buhugana *sakalo*, Yuri *sokehry* 'hip'; Equatorial: Campa *no-tsaki*, Piaroa *tsiha* 'thigh,' Mocoči *čuko* 'leg,' Otomi *čučuga* 'thigh,' Chapacura *čiki-či* 'foot'; Macro-Carib: Trio *sako* 'leg,' Mocoa *saku*, Ocaina *ĩžžóga* 'foot'; Macro-Panoan: Toba-Guazu *čagañi* 'thigh,' Cavineña *etsaka* 'leg,' Sapiboca *ečuxu* 'thigh'; Macro-Ge: Botocudo *žāk-merum* 'tibia,' Masacara *šüöku* 'leg,' Kaingan *(in)-tšo* '(my) leg.' [AM 165, AK 113, CP 114, AIW, PP 133, AMN]

26 TSUMA 'hair'

KHOISAN: !Kung *čum* 'shell,' š'um 'skin,' Eastern ≠Hua *č'ū ~ t^sū ~ dt^sū* 'skin'; G//abake *čā ~ čō* 'skin'; /Xam *tū* 'shell.' [SAK 597, 807]

NILO-SAHARAN: Nyangiya *sim-at* 'hair,' Nandi *sum*. [KER 445]

AFRO-ASIATIC: Omotic: Proto-Omotic **somm-* 'pubic hair'; Cushitic: Sidamo *šomb-*, Proto-Southern Cushitic **se?em-* 'hair'; Old Egyptian *zm3*; Semitic: Proto-Semitic **šmg* 'fine hair shed by a camel'; Chadic: Hausa *suma* 'growth of hair.' [OL 47, CCE]

CAUCASIAN: Proto-Caucasian **t^sfiwēme* 'eyebrow,' Proto-Lezghian **t^swem*, Proto-Nax **t^sa-t^sʔVm*. [C 70]

BASQUE *zam-ar(r)* 'lock of wool, shock of hair.' [SC 12]

YENISEIAN: Proto-Yeniseian **t^səje* 'hair.' [SC 12]

SINO-TIBETAN: Proto-Sino-Tibetan **t^{sh}ām* 'hair'; Archaic Chinese **sam ~ *šam* 'hair, feather'; Tibeto-Burman: Proto-Tibeto-Burman **tsam* 'hair,' Lepcha *ātsom*, Tibetan (*ʔag-*)*tshom* 'beard of the chin' (= [mouth]-hair), Kanauri *tsam* 'wool, fleece,' (*mik-*)*tsam* 'eyebrow' (= [eye]-hair), Magari *tšham* 'hair, wool,' Burmese *tsham*, Lushei *sam* 'hair (of the head),' Dhimmal *tšam* 'hide, bark,' Garo *mik sam* 'eyebrow,' Nung *əŋsam* 'hide.' [ST 73, 191, UOL 194, SS 23]

MIAO-YAO: Proto-Miao-Yao **šjām ~ *sjām* 'beard, moustache.' [PB 307]

AMERIND: Almosan-Keresiouan: Pawnee *ošu* 'hair,' Dakota *šū* 'feather,' Woccon *summe* 'hair'; Penutian: North Sahaptin *šəmtai* 'pubic hair,' Nez Perce *simtey*, Kekchi *t^sut^sum* 'feather,' *ismal* 'hair,' Mam *tsamal*, Quiche *isumal*; Hokan: Proto-Hokan **č^hemi* 'fur,' North Pomo *t^sime* 'hair,' Kashaya *sime* 'body hair, fur,' Northeast Pomo *č^heme* 'body hair,' Mohave *sama* 'root,' Cocopa *išma* 'hair,' Tlappanec *t^sūŋ* 'hair, root'; Central Amerind: Tubatulabal *t^somol* 'hair, head'; Chibchan-Paezan: Matagalpa *susum* 'beard,' Xinka *susi* 'beard'; Andean: Tsonoka *čomki* 'pubic hair,' Quechua *sunk'a* 'beard'; Equatorial: Caranga *čuma* 'hair,' Quitemo *čumi-či*, Aguaruna *susu* 'beard,' Candoshi *sosi*. [AM 136, EQ 54, UOL 194, DL 4, AMN]

27 ?AQ'WA 'water'

KHOISAN: Northern: !o !kung *kāũ* 'to rain,' !kung *k"ā* 'drink'; Central: Naron *k"ā* 'drink'; Southern: /kam-ka lke *k"wā* ~ *k"wē* 'drink,' *kāũ* 'to rain,' //ng lke *k"ā* ~ *k"ē* 'drink,' *kāũ* 'to rain,' Batwa *k"ā* ~ *k"ē* 'drink,' /auni *k"āa* 'drink,' Masarwa *k"ā* 'drink,' /nu //en *k"ā* 'drink.' [KE 261]

NILO-SAHARAN: Fur *kōl* 'rain'; East Sudanic: Nyimang *kwe* 'water,' So *kwe?*, Ik *čue*; Central Sudanic: Mangbetu *éguo*; Berta *kōl* 'rain, cloud'; Koman: Kwama *uuku* 'water,' Anej *agu-d* 'cloud.' [NSB, KER]

AFRO-ASIATIC: Proto-Afro-Asiatic (Illich-Svitych) **q(w)* 'water,' (Ehret) **ak'w-*; Omotic: Proto-North Omotic **ak'-*, She *k'ai* 'wet,' Janjero *ak(k)a* 'water,' Kaffa *ačō*, Mocha *āč'o*, Gofa *haččā*, Shinasha *ač'č'o*, Badditu *wat's'e*; Cushitic: Proto-Cushitic (Ehret) **-k'w-* 'to be wet,' (Illich-Svitych) **qw* 'water,' Agaw *aq'w*, Bilin *'aq'w*, Xamir *aq'wā* 'drops of water,' Damot *ag'wo* 'water,' Proto-East Cushitic (Ehret) **k'oy-* 'wet,' Hadiyya *wo'o* 'water,' Tambaro *waha*, Sidamo *waho*, Iraqw *āha* 'drink.' [N 139, EU, AM 87, CE 348]

INDO-EUROPEAN: Proto-Indo-European (Pokorny) **akwā-* 'water,' (Puhvel) **eg'w-*, (Bomhard) **ek'w-*; Anatolian: Hittite *eku-*, Luwian *aku-*, Palaic *aḫu-* 'drink'; Italic: Latin *aqua* 'water'; Germanic: Gothic *ahwa* 'river'; Tocharian: Tocharian A *yok-* 'drink.' [IE 23]

URALIC: Proto-Uralic (Rédei) **yoka* 'river.' [R 99-100]

JAPANESE *aka* 'bilge water.' [JP 100]

AINU *wakka* 'water,' *ku* 'drink.' [JP 100]

CAUCASIAN: Proto-Caucasian **-VqV* 'suck,' Proto-Lezghian **ʔox'w-a* 'drink,' Lezghian *χ'w-a-l*, Agul *uxas*, Proto-Lezghian **ʔoq'w-a* 'rain,' Lezghian *q'w-a-z*, Rutul *huw'as*, Tsakhur *jow'w*; Proto-Nax **-aq-* 'suck(le),' Chechen *-aq-* 'suck'; Proto-Dargi **-uq-* 'suck(le).' [C 3, 16]

?BURUSHASKI *haγ-um* 'wet.'

SINO-TIBETAN: Proto-Sino-Tibetan **Ku* 'fluid, spill,' Newari *k'wo* 'river,' Khaling *ku* 'water,' Kachin *k'hu*. [NSC 43]

INDO-PACIFIC: Awyu *okho* 'water, river,' Syiagha *okho* 'water,' Yareba *ogo*, Yonggom *oq*, Ninggirum *ok*. [FS 96, 134]

AUSTRALIAN: Proto-Australian **gugu* 'water.' [AC]

AMERIND: Almosan-Keresiouan: Proto-Central Algonquian **akwā* 'from water,' Kutenai *-q'w* 'in water,' Quileute *kwāya* 'water,' Snohomish *q'w-a?*, Caddo *koko*; Penutian: Nass *akⁱ-s*, Takelma *ug'w* 'drink,' Wintun *wak'ai* 'creek,' Zuni *k'a* 'water,' Atakapa *ak*, Yuki *uk'*, Tetontepec *uu?k* 'drink,' Yucatec *uk'* 'be thirsty'; Hokan: Chimariko *aq'a* 'water,' Kashaya *?ahqha* 'water,' *q'o* 'drink,' Seri *?ax* 'water,' Diegueno *?axā*, Quinigua *kwa*, Tonkawa *?āx*, Tequistlatec *l-axa?*; Central Amerind: Proto-Chinantec **g'w-a*

'stream, river'; Chibchan-Paezan: Shiriana *koa* 'drink,' Chimila *uk-*, Binticua *agu*, Allentiac *aka* 'water'; Andean: Iquito *aqua*, Quechua *yaku*, Yamana *aka* 'lake'; Macro-Tucanoan: Auake *okōa* 'water, river,' Cubeo *oko* 'water,' Tucano *axko*; Equatorial: Amniape *ākū*, Quitemo *ako*, Uraicu *uaka* 'wash,' Terena *oko* 'rain,' Chipaya *ax^w* 'wash'; Macro-Carib: Yagua *xa* 'water,' Witoto *joko* 'wash,' Macushi *u-wuku* 'my drink,' Waiwai *woku* 'drink,' Taulipang *ai'ku* 'wet'; Macro-Panoan: Lule *uk* 'drink,' Mayoruna *uaka* 'water,' Culino *yaku* 'water,' waka 'river,' Huarayo *hakua* 'wash'; Macro-Ge: Koraveka *ako* 'drink,' Fulnio *waka* 'lake,' Kamakan *kwa* 'drink,' Chavante *kō* 'water,' Aponegicran *waiko* 'drink.' [AM 87, AMN]

ABBREVIATIONS

A	Andean, Greenberg 1987
AA	Afro-Asiatic, Greenberg 1963
AAD	Afro-Asiatic Dictionary, Diakonov 1981–
AB	Allan Bomhard, 1987
AC	A. Capell, 1956
AD	Anna Dybo, 1988
AIW	Mary Key, 1987
AK	Almosan-Keresiouan, Greenberg 1987
AM	Amerind, Greenberg 1987
AMN	Amerindian Notebooks, 23 vols., Greenberg 1981
AN	Austronesian, Dempwolff 1934–38
AT	A. N. Tucker and M. A. Bryan, 1957
B	Burushaski, Lorimer 1938
BA	Bantu, Guthrie 1967
BB	Barry Blake, 1988
BD	Bushman Dictionary, Bleek 1956
C	Caucasian, Nikolaev and Starostin 1992
CA	Central Amerind, Greenberg 1987
CAN	Central Amerind Notebook, Greenberg 1981
CCE	Vladimir Orel and Olga Stolbova, 1988
CE	Christopher Ehret, 1989
CK	Chukchi-Kamchatkan, Mudrak 1990
CN	Chari-Nile, Greenberg 1963
CP	Chibchan-Paezan, Greenberg 1987
CS	Marcel Cohen, 1947
D	Dravidian, Burrow and Emeneau 1984
DB	Dorothea Bleek, 1929
DC	Dene-Caucasian, Nikolaev 1991

DL	D. R. Leshchiner, 1989
EA	Eskimo-Aleut, Mudrak 1989
EC	East Caucasian, Starostin and Nikolaev 1975
EQ	Equatorial, Greenberg 1987
ES	East Sudanic, Greenberg 1963
EU	Eurasiatic, Greenberg to appear
FS	F. Seto, 1988
H	Hokan, Greenberg 1987
HF	Harold Fleming, ed., <i>Mother Tongue</i> , 1986–
HJ	Harry Johnston, 1922
IE	Indo-European, Pokorny 1959
IP	Indo-Pacific, Greenberg 1971
IS	V. M. Illich-Svitych, 1967
IST	Robert Shafer, 1974
JB	John Bengtson, 1986
JP	James Patrie, 1982
JR	Johannes Rahder, 1963
K	Khoisan, Greenberg 1963
KA	Kartvelian, Klimov 1964
KE	Khoisan Etymologies, Ruhlen 1987b
KER	Harold Fleming, 1983a
KS	Kongo-Saharan, Gregersen 1972
LC	Morris Swadesh, 1960
LN	Václav Blažek, 1990
M	Mande, Mukarovsky 1966
MG	Macro-Ge, Greenberg 1987
MT	Macro-Tucanoan, Greenberg 1987
N	Nostratic, Illich-Svitych 1971–84
NA	Nahali, Kuiper 1962
NC	Niger-Congo, Greenberg 1963
ND	Na-Dene Notebook, Greenberg 1981
NK	Niger-Kordofanian, Greenberg 1963
NNG	North New Guinea, Greenberg 1971
NP	Norman-Paman, Black 1980
NS	Nilo-Saharan, Greenberg 1963
NSB	Nilo-Saharan, Bender 1980
NSC	Nostratic-Sino-Caucasian, Starostin 1991
NSD	Nilo-Saharan-Dravidian, Greenberg 1986
OL	Václav Blažek, 1989
OS	Olga V. Stolbova, 1987
P	Penutian, Greenberg 1987

PB	Paul Benedict, 1975
PP	Paul Proulx, 1984
R	Károly Rédei, 1986–88
RB	Robert Blust, 1980
RD	Robert Dixon, 1980
SAK	Southern African Khoisan, Ruhlen 1987b
SB	S. Bhattacharya, 1966
SC	Sino-Caucasian, Bengtson 1991a
SES	Southeast Surmic, Fleming 1983b
SM	Stuart Mann, 1984–88
SN	Sergei Nikolaev, 1991
SNG	South New Guinea, Greenberg 1971
SS	Sergei Starostin, 1984
ST	Sino-Tibetan, Benedict 1972
SUL	Björn Collinder, 1957
SWNG	Southwest New Guinea, Greenberg 1971
SY	S. Yoshitake, 1934
T	Tasmanian, Plomley 1976
TB	Tibeto-Burman, Matisoff 1985
U	Uralic, Collinder 1977
UOL	Alfredo Trombetti, 1905
VB	Václav Blažek, 1988
VT	V. N. Toporov, 1967
W	Werchikwar, Lorimer 1962
WM	Walter Müller, 1975
WP	Alois Walde and Julius Pokorny, 1930
WW	S. A. Wurm and B. Wilson, 1975
Y	Yeniseian, Starostin 1984

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Index

No attempt has been made in the following index to list every language—or even every language family—mentioned in this book. Such an index would have been excessively long, cumbersome, and of very little use to most readers. In fact, since each chapter deals with a specific topic, even the table of contents provides a rough index to the book. The present index is for the most part limited to higher-level families that are traditionally considered to represent the limits of the comparative method in linguistics (e.g. Indo-European, Uralic, Austronesian), and to individual languages that are often considered “unrelated” to other languages or language families (e.g. Basque, Burushaski, Japanese). General topics and authors are also included.

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